The efficacy of a brief motivational intervention in reducing drug consumption and related risk among young people involved in illegal drug use

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The Efficacy Of A Brief Motivational Intervention In Reducing Drug Consumption And Related Risk Among Young People Involved In Illegal Drug Use

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ABSTRACT

The subject of intervention among young people involved in illegal drug use was selected as the area of study. An intervention was adapted from the literature on brief interventions and motivational interviewing in the form of a one-hour single-session face-to-face discussion. The sample was comprised of illegal drug users aged 16 - 20, who were accessed though ten Further Education colleges across inner London, following recruitment by trained peers. The study design was a cluster randomised trial, allocating 200 young people in the natural groups in which they were recruited to either a brief motivational interview (n=105) or to education-as-usual control condition (n=95). Changes in tobacco, alcohol, cannabis and other drug use, and related psychological and interactional risk factors were studied over three months. Multiple benefits were identified which are robustly attributable to intervention. There were reductions in the use of all the three drugs used by the majority of the sample as well as reductions in various risk indicators. In line with the existing literature, effects were greater among heavier users, and in the case of cannabis use, this effect was also greater among those who are more vulnerable according to a number of indicators. The validity of these findings is considered carefully within this thesis. This study provides the first evidence of benefit to be derived among young illegal drug users in receipt of a brief motivational interview. Additionally, the targeting of multiple drug use for preventive intervention among young people has been supported.

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This thesis is dedicated to two people:

In loving memory of Rachel, who more than anyone else, made me who I am.

And also to Liz, who helps me to be what I want to be and to do what I want to do.

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CHAPTER 1: THE EPIDEMIOLOGICAL, PUBLIC HEALTH AND BROADER PUBLIC POLICY CONTEXTS OF DRUG USE AMONG YOUNG PEOPLE AS A TARGET FOR INTERVENTION

Synopsis

The involvement of young people in drug use is considered in relation to two epidemiological factors which have traditionally governed public health responses; the relationship between risk factors and health outcomes and distribution of the risk factor within the population. The 'gateway perspective' and other data on risk are examined in the British context. Recent developments in the public health and broader public policy contexts are considered in order to identify the scope for interventions to address epidemiologically-based needs. 'Harm minimization' is discussed as a framework within which preventive intervention may be developed. It is concluded that there is important and timely need to develop efficacious intervention which targets young people who use drugs.

Introduction

The object of all health services and their various activities is to maximize health (Cochrane, 1972 cited in Rose, 1992). Pragmatic reshaping of health services to meet changing patterns of need now plays a major role in public health policy. The aims of the current strategy have recently been formally set out as follows (Our Healthier Nation, 1998);

"to improve the health of the population as a whole by increasing the length of people's lives and the number of years people spend free from illness; and to improve the health of the worst off in society and to narrow the health gap"

The character of public health responses in general, has traditionally been informed by two epidemiological factors; the distribution of risk within a population; and the relationship between the risk factor and the health outcome (Rose, 1992). In relation to the first of these, the gateway perspective is discussed in connection with transitions from legal to illegal drug use, and from cannabis to other illegal drug use. Other data on escalation of use of particular substances and on the relationship between consumption and harms are considered. The distribution of risk is examined with cross-sectional prevalence data on legal and illegal drug use among young people in Britain and a notable five year longitudinal study.

Where risk is widely diffused, such as the case with alcohol consumption, a population

prevention strategy is required. Where it is concentrated in identifiable groups which are amenable to intervention, for example among drug-using prisoners, a 'high risk' strategy is appropriate (Rose, 1992). Implications for the formulation, targeting and development of preventive intervention are considered as well as the limitations of the existing literature.

How is drug use to be conceptualised as a public health problem? According to the Institute of Medicine (1996);

"Drug use is not a medical disorder and is not listed as such in either of the two most important diagnostic manuals...From a public health standpoint, drug use is a risk factor; the significance of use (whether of alcohol, nicotine or illicit drugs) lies in the risk of harm associated...and in the risk that use will intensify, escalating to abuse or dependence."

Prevalence data on the distribution of drug use among the young thus require to be considered in this light alongside data analysing the relationship between drug use and health outcomes. These outcomes may be considered to be harms relating directly to consumption or to the risks that attach to changing patterns of consumption (Institute of Medicine, 1996). These risks may then pertain to change in the consumption of a particular drug or to the use of new drugs.

Mandatory assessment of needs for healthcare intervention (NHS & Community Care

Act, 1990), has been interpreted to involve a definition of need as being 'the ability to benefit from intervention' (Stevens & Raftery, 1994). The traditional foundation of public health identification of need, epidemiology, has accordingly been complemented by new concerns. These have been identified as the combined impacts of effectiveness, cost effectiveness and the activities of existing services (Stevens & Raftery, 1994; Williams & Wright, 1998).

Ongoing developments in service provision are considered which follow on from recent policy innovations. Epidemiological data will thus be complemented by consideration of existing provisions and the changing policy contexts which define possibilities for new interventions to be developed. In the two chapters that follow, the literature on interventions is reviewed and an account given of the adaptation of the intervention under study in light of the needs of the study population in these contexts.

1.1 Epidemiological Perspectives on Drug Use among Young People: Data from International Sources

1.1.1. The Gateway Perspective on Legal and Illegal Drug Use among Young People

The involvement of young people in drug use has been investigated notably by Denise Kandel and colleagues. A single cohort representative of New York state public school pupils was studied from adolescence into their mid-thirties, between 1971 and 1990 (Kandel 1975; Kandel, 1980; Kandel, 1984; Kandel & Logan 1984; Yamaguchi & Kandel, 1984a; Yamaguchi & Kandel, 1984b; Kandel et al., 1986; Kandel & Raveis, 1989; Kandel et al., 1992; Chen & Kandel, 1995; Chen & Kandel, 1998).

This work has identified a sequence of progression in the use of different drugs. The formulation of the sequence has been modified over time in the light of emerging data. A developmental pathway is suggested, whereby the use of legal drugs precedes that of illegal drugs, and marijuana use precedes the use of other illicit drugs. The basic four-stage originally identified (Kandel, 1975) was as follows: 1. The use of beer or wine. 2. The use of spirits or cigarettes. 3. The use of marijuana. 4. The use of other illicit drugs. A more detailed later stage description has also been offered where following marijuana, pills (amphetamines, barbiturates and tranquillisers) precede psychedelic drugs and cocaine and ending with heroin (Adler & Kandel, 1981). Later amendment of the basic four-stage structure involved the identification of prescribed drugs as the end point in the sequence (Chen & Kandel, 1995).

Reconstruction of drug histories on a monthly basis has defined progression to a higher stage as constituting lifetime use prevalence in excess of ten episodes (Yamaguchi & Kandel, 1984a). Participants were recruited at age 15/16 and re-interviewed at ages 24/25, 28/29 and lastly at 34/35. Seventy-one per cent were successfully followed up through to 1990, and over-represented in loss to follow-up were those with earlier and heavier drug using experiences, ethnic minorities and those with a range of indicators of socioeconomic deprivation (Kandel & Logan, 1984; Chen & Kandel, 1995). Historical and cohort effects are recognised to be difficult to control for in studies of this type (Kandel, 1991).

Kandel and colleagues found that the use of any drug within the sequence is associated with the prior use drugs earlier in the sequence. It is not implied however that progression is an inevitable or majority outcome.

"The use of particular drug does not invariably lead to the use of other drugs higher up in the sequence. The model is not meant to be a variant of the controversial "stepping stone" theory of drug addiction in which the use of marijuana was assumed to lead inexorably to the use of other illicit "hard" drugs, especially heroin...Entry into a particular stage is a common and perhaps even a necessary although not a sufficient prerequisite for entry into the next higher stage. Many youths stop at a particular stage without progressing any further. Most youths eventually stop using most of the drugs in adulthood." (Kandel et al., 1992)

Risk of progression is identified as strongly age-related. Most initiation of cigarette smoking occurs by 16, alcohol, marijuana and psychedelics initiation by 18, and cocaine initiation through the 20s (Kandel & Logan, 1984). Gender differences are observed in sequences of progression, with the use of alcohol as the main precursor to marijuana use among young men, whereas smoking and drinking appear to be similarly important among young women (Yamaguchi & Kandel, 1984a). Alongside modification of the basic stage structure, other predictors are identified. Importantly, peer and delinquency factors are associated with the onset of marijuana use (Yamaguchi & Kandel, 1984b).

An account of the processes by which marijuana use is associated with other illicit use is offered by Kandel et al. (1986). Briefly, drug use is found to be a self-sustaining behaviour which gives rise to a cumulative series of consequences which generally serve to exacerbate psychosocial risk and make further drug use more likely. Marijuana use is identified as negatively impacting upon participation in major social roles involving lower employment and marriage-type relationship levels, and is associated with higher levels of delinquency, physical and psychological health problems. The model presented is essentially a vicious circle where;

"Use of a drug initiates a cascade of events and consequences that is amplified by the regenerative interaction of initial drug use and its subsequent use." (Kandel et al., 1986)

This work principally identifies change between drug classes and not within a given class that may predict progression. Kandel et al. (1992) identify differential rates of

progression according to extent of involvement. Lifetime prevalence of 10 - 99 episodes of marijuana use at age 24 - 25 is compared with 100 episodes or more, with greater involvement associated with enhanced risk of progression. Later work using a more detailed measure also relates frequency of use to cessation (Chen & Kandel, 1998).

The study of sequences of use has been increasingly situated within a broader natural history account of drug use within the study population (Kandel & Logan, 1984; Kandel et al., 1992; Chen & Kandel, 1995). Alcohol and marijuana are found to have similar patterns of periods of highest use and maturation effect. Cessation outcomes are predicted by a range of drug involvement, adult role and other psychosocial factors (Chen & Kandel, 1998). It is noteworthy that ongoing use of illicit drugs in adulthood is associated with higher levels of marijuana, alcohol and cigarette use, and that cigarette use is the most persistent of these behaviours (Chen & Kandel, 1995; 1998).

The model was later tested in a cross-sectional study in light of the substantial increases in the prevalence of cocaine in the U.S. in the 1980s. Again, legal drugs and marijuana were found to precede the use of powder cocaine, which itself was found to precede the use of crack cocaine (Kandel & Yamaguchi, 1993).

Kandel has long considered the existence of a stage structure to be culturally determined (1975). However cross-cultural replication has been very limited, with only one comparative study of the U.S., France and Israel located (Adler & Kandel, 1981). The existence of sequences in general was confirmed in this study though data

limitations imposed restrictions upon the level of detail observed. The sequence found in France was similar to that observed in the United States, except that it proved difficult to specify a particular position for cigarette smoking. The low prevalence levels of illicit drug use in Israel and reflected in the sample prevented any investigation of their sequencing in relation to each other. In that country t could only be found that illicit drug use followed the initiation of legal drug use.

More recent work by this group has been concerned with broader epidemiological patterns as this limited cross-cultural study has pointed towards the importance of prevalence. According to Kandel (1991);

"the higher the overall societal levels, the greater the involvement in drugs on the part of the users, the more persistent the use, the earlier the age of onset into the use of drugs, and the greater the spread of the phenomenon throughout all groups in society, with an attenuation of inter-group differences in patterns of use"

1.1.2. Other Perspectives on the Gateway Model & Other Risk Factors for Initiation and Escalation of Drug Use: The Case of Cannabis

One major intervention implication expounded in light of gateway data is that the age of onset of cigarette smoking, drinking and marijuana use should be targeted for delay (Yamaguchi & Kandel, 1984b). The logic is to limit the scope for progression to later years when this becomes less likely, thereby making a contribution to limitation of involvement with more harmful drugs. Particular controversy has attended the issue of

whether and how cannabis/marijuana encourages other illegal drug use (Fergusson & Horwood, 2000). Indeed, how the gateway literature should be interpreted has come to occupy a central place in debates about the legalisation of cannabis (MacCoun, 1998).

One strand of the gateway literature that has come to be questioned in recent years is the importance attached to age of onset of legal and illegal drugs. Across a wide range of behavioural domains a distinction has recently been drawn between those problem behaviours that are adolescence-limited and those which are lifecourse-persistent (Moffit, 1993).

Labouvie et al. (1997) examined age of initiation of alcohol and (illegal) drugs in a long term longitudinal study. They identified that it had a moderate degree of predictive power in relation to alcohol and drug involvement at the age of 20, but this had disappeared by the age of 30. They concluded that age of first use should not be viewed as a "turning point" in drug using careers but rather as one risk factor among many. Others have observed that there are few or no long term effects of teenage drug involvement, particularly among the middle class (Cohen, 1994).

More commonly, early illicit use, usually cannabis, is associated with a wide range of pyschosocial adjustment difficulties including mental health problems, poor school performance, criminal activity and other drug use and related problems (Fergusson & Horwood, 1997). Brook et al. (1999) identified increased risk of school, sexual, deviancy and drug problems at the end of the teens as being associated with early cannabis use.

Anthony & Petronis (1995) explored whether such observed elevation in risk and problem experience could in fact be an artefact of time (having more time in which problems may develop), in the Epidemiological Catchment Area (ECA) Program sample. They found that age of initiation was an independent risk factor for later drug problems, mirroring the findings of Robins & Przybeck (1985) which suggested that early cannabis use interferes with developmental processes. Fergusson & Horwood (1997) similarly found that initiation of cannabis use prior to the age of 16 was broadly associated with psychosocial risk impairment. Most notably, they identified an association with other drug use by the age of 18.

Golub & Johnson (1994) questioned whether those who go on to develop serious drug problems (defined as smoking crack or injecting heroin on a daily or more frequent basis) went through the same gateway processes as do general population samples investigated by Kandel and colleagues. They found that alcohol was less prominent than predicted, but that cannabis use was found to be a precursor to other drug use. Similarly, Kane & Yacoubian (1998) tested the gateway hypothesis in a sample from within the criminal justice system and confirmed the significance of cannabis on the pathway to other drug use.

Fergusson & Horwood (1997; 2000) reviewed various explanations for associations between cannabis and other drug use. One possibility is that the relationship is entirely non-causal and that those who initiate cannabis are also pre-disposed to initiate other

drug use. Other possibilities comprise physiological (or pharmacological), psychological (or learning) and social contextual causal mechanisms of effect. Fergusson & Horwood (2000) rejected a non-causal explanation of the association, whilst still recognising the possibility of unknown confounders being involved. The observed absence of explanatory factors other than cannabis use in their New Zealand birth cohort study, provides perhaps the strongest support for the gateway role of cannabis beyond the American context (Fergusson & Horwood, 2000). The processes by which cannabis use exerts this effect are, however, held not to be at all clear (Fergusson & Horwood, 2001). Interpretations giving vastly different weights to the three putative sets of causal factors above remain possible (Lenton 2001).

Newcombe (1996) emphasised that drug use among young people is not generated by a single or small number of risk factors. Rather a wide range of factors in different domains are capable of being identified as being associated with the initiation of drug use. The more risk factors that are present in an individual or group, the more likely that drug use will occur. Drug use is seen in this light to be implicated in a range of other 'problem behaviors' (Donovan & Jessor, 1985).

In a comprehensive and influential review of this largely American literature, Hawkins et al. (1992) identified 17 risk factors in four domains (Culture & Society, Interpersonal, Psychobehavioural & Biogenetic). In similar vein, Petraitis et al. (1995) likened the assembly of evidence in this area to organising the pieces in a puzzle. Although there is some similarity, the domains used are quite distinct from those employed by Hawkins et

al. They summarised the literature as falling into 10 explanatory categories: These are three levels of influence (ultimate, distal and proximal) by three types of influence (social, attitudinal and intrapersonal) and with an additional level of influence (immediate).

More recently, Petraitis et al. (1998) reviewed 384 findings from 58 longitudinal studies, 23 of which had been published in the 1990s. Factors identified as well established are: prior problem behaviours; cognitive preparation for illicit use; contact with peer users and deviant peers; detachment from religion and family; and emotion regulation difficulties. Factors well established as not associated with drug use initiation, despite conventional wisdom, are: anxiety; depression; and low self-esteem.

Another long-observed phenomenon which has recently been questioned is the nature of gender differences in drug use initiation. VanEtten et al. (1999) retrospectively examined this issue in nine waves of data collection of the American national household survey over the period 1979-94. They found that, once opportunities for use are adequately controlled for, there is little or no gender difference in initiation rates.

The complexities of the relationships between important risk factors can be demonstrated with two recent examples. Pedersen et al. (2001) identified male-female differences in types of conduct problems as important precursors to early cannabis initiation, and as having gender distinct aetiological implications. These data were collected in Norway at a time when cannabis prevalence was low. The significance of

their findings in more cannabis-prevalent countries or periods is questioned by the authors themselves.

McGee et al. (2000) investigated the relationship between cannabis use and mental health in a New Zealand birth cohort sample. They found a small association between mental disorder at the age of 15 and elevated cannabis use risk at 18. Later however, they observed cannabis use at the age of 18 to be associated with elevated risk of mental disorder at the age of 21. Time-varying relationships of this type require careful study in different contexts.

Perkonigg et al (1999) studied a representative sample of Munich teenagers aged 14 - 17 over approximately 20 months. They observed cessation (26%) in around a quarter of those who had used cannabis more than once, and transitions to regular use in the majority (using a low threshold for definition of regular use, more than 5 times). Hofler et al. (1999) identified factors associated with this transition in this sample. Availability, future intentions, prior alcohol problems, low self-esteem, nicotine dependence, friends drug use and family history of substance use disorder all predicted increased cannabis use. Of these, the first two factors were found to be the most influential.

Coffey et al. (2000) investigated similar issues among a representative cohort of 14 - 15 year old Australian (state of Victoria) school attenders followed up for three years. They found that most youthful cannabis was occasional but that approximately 12% of early users progressed to daily use before the end of school. These were more likely to be

male, for whom availability and use by friends were important factors. Among females, problem behaviour variables were more influential. Cigarette smoking was implicated in both the initiation and persistence of cannabis use.

Resnicow et al. (1999) found occasional cannabis use (less than 5 episodes in 30 days) to be associated with less other drug use and less heavy drinking among high-school seniors in the American National Household Survey. A factor crucially differentiating occasional and heavy users was perception of the risks consequent upon regular use. Heightened perception of risks and harms among occasional users was also associated with better school performance and less problem behaviours.

1.1.3. Other Consequences of Drug Use among Young People: Dependence and Problems

Of the two facets of the relationship between drug use among young people and harmful outcomes, it will be seen from the foregoing that much attention has been given to changing patterns of use, both within and between drugs. Consideration of harms associated with drug use can be divided into those which are direct or contemporaneous to use, as well as those which are indirect or which are associated with escalation to other harmful drug use (Institute of Medicine, 1996). Harms are further considered to consist of dependence or problems (or 'abuse') in the international diagnostic system (American Psychiatric Association, 1994). This section will concentrate on the literature available on consumption related harms, again taking cannabis as an example.

Budney et al. (1997) summarized data on the relationship between lifetime and last year prevalence and dependence. In nationally representative samples, 9.2% of Americans and approximately 9% of Australians who have ever used cannabis qualify for a lifetime diagnosis of dependence. In America, 7.4% of adults over 18 who used cannabis in the last year qualify for a last year dependence diagnosis, and 14.4% of 12 - 17 year olds do so.

Chen et al. (1997), in data from the U.S. national household survey, identified relationships between frequency and quantity of cannabis use and dependence. Young people aged 12 - 17 are more likely to become dependent at lower frequencies and quantities than adults. The difference in dependence liability is particularly wide in heavier users. Among those using on a daily or near daily basis, 35% of adolescents are found to be dependent, as compared to 18% of adults over 18 years of age.

Cunningham et al. (2000) provided evidence of a cannabis dose-response relationship in an Ontario general population sample in relation to problems or negative consequences drawn from international diagnostic criteria. Estimated frequency of use within the last year is found to be related to the experience of a range of related health, psychological and social consequences. Interestingly this relationship was found to be true regardless of whether or not consequences were termed problems.

Hall (2001) has reviewed the extensive evidence base on the health risks of cannabis. It

is concluded that the most probable harms caused by cannabis use include; increased risk of car accidents; respiratory disease; dependence; adverse effects on adolescent development; and the exacerbation of psychosis. Similarly, drug specific problems have been identified in relation to other drugs commonly used by young people. Edwards et al. (1994) reviewed the extensive evidence base on alcohol problems, but in this review and commonly in others, age-specific consideration of risk is not undertaken.

Most study of young people's drug use has focused on initiation and the 'progression' to other drug use. Epidemiological investigation of harms in general population samples has emerged only recently as increased attention has been given to cannabis and other drug use among young people. More appears to be known about dependence than problems beyond clinical contexts, at present, but it can be expected that the evidence base in relation to both will grow considerably in light of international prevalence trends (Bauman, 1999).

Whether stage-based conceptualisations, such as that provided by the gateway model, or other risk factor approaches are adopted, it seems clear that involvement in drug use and related consequences are age-related. As such, intervention targeting must be sensitive to both current and anticipated use patterns as well as direct harms. Cultural variation in aetiological factors may be expected. In the British context, it is the dearth of data collected which examines the relationship between changing patterns of drug use and health outcomes which is particularly striking.

1.2 The Epidemiology of Drug Use among Young People in Britain

1.2.1. Illegal Drug Use Prevalence in Britain in Historical and International Contexts

International comparative study and historical analyses present possibilities for the interpretation of national prevalence data, although also has to be acknowledged that there are only limited data which are available for these tasks. Surveys allowing population prevalence estimation are a recent development, both in the UK and throughout Europe, thus making comparison over time to some extent problematic.

Two repeated nationally representative surveys have both consistently found a clear reduction in lifetime prevalence after the mid - 20s (Ramsey & Partridge, 1999; Tasker et al., 1999), from which only limited longitudinal inferences may be drawn.

A survey of young people in the West Midlands (Wright and Pearl, 1995) has been repeated at five year intervals since 1969. Whilst not measuring drug use prevalence directly, it has employed two "proxy" measures of prevalence; knowing someone who takes drugs and having ever been offered drugs. By looking at the sequence of data from these surveys, a clear long term upward trend can be seen on both measures, the only exception being the period 1974 - 1979. A particularly sharp increase in both measures was recorded for the period 1989 - 1994 where levels of positive responses more than doubled.

Balding (1996; 1997; 1998) in studies of school children throughout Britain also

presents a very clear picture of a long term increase in lifetime drug prevalence over the period from 1987 onwards. In that year, lifetime prevalence among 14 - 15 year olds was below 5%. In every year until 1996, there was an increase in this rate. Although these samples were not probablistically formed, the scale of data collection in this series is impressive. In 1997, 27,317 school students in years 7 - 10 were surveyed in 122 schools in eight regions.

Roberts et al. (1995) observed increases in the lifetime prevalence of most drugs between 1990 and 1994 among 15 - 16 year olds in Wales. Lifetime use of cannabis increased from 16.2% to 31.9%, LSD from 2.7% to 12.6%, Amphetamines from 3.9% to 11.6% and Magic mushrooms from 10.2% to 17.7%.

A gradual increase over the years 1994 - 1998 is apparent from the three waves of the British Crime Survey. Lifetime prevalence increased from 46% to 49% among 16 - 19 year olds and from 44% to 55% in 20 -24 year olds (Ramsey & Percy, 1996; Ramsey & Partridge, 1999). Pooling data from these studies and the HEA (1996) and other studies, using meta-analysis techniques, Gore et al. (1999) identify hitherto unrecognised increases in amphetamine and ecstasy use among 16 - 24 year olds. These authors draw attention to the statistical power limitations of the current range of national surveys to detect anything other than fairly large increases in prevalence.

Comparison is also possible with earlier local surveys. In London, Swadi (1988) reported a prevalence survey conducted in six schools (n=3333). Lifetime use

prevalence of any drugs, including solvents, was found to be 20.5%, across 11 -16 years of age with a high of 26% among 16 year olds. At this time there were similar rates of lifetime cannabis and solvents prevalence (11.7% and 11% respectively) and the use of any other drugs was rare (highest, stimulants 3.2%). As will be seen, these rates are extremely low in comparison to those observed one decade later.

It is has been observed of official statistics that, if reliability problems can be assumed to be relatively stable over time, then they can provide valuable time trend data (ISDD, 1997). Law enforcement datasets identify sustained and steep increase in the number of cannabis offenders over the last ten years. Additionally, a much wider range of drugs, appearing in larger quantities and involving increasing numbers of offenders, have been particularly associated with young people. These most notably include amphetamines, ecstasy, LSD and cocaine (Barber et al., 1996). Treatment datasets similarly evidence a continuous and steep rise in the numbers receiving treatment for dependence and problems over the last two decades (Department of Health, 1996). Heroin and injecting drug use are particularly prominent among those receiving help.

Data from the European Monitoring Centre for Drugs & Drugs of Addiction (EMCDDA, 1998) position Britain as having the most drug involved youth across Europe. Whilst second to Denmark in estimated lifetime prevalence of cannabis in the adult population as a whole, Britain has the highest estimated 12 month use prevalence. Among 15 - 16 year olds, the highest lifetime prevalence rates by some margin are found in Britain for cannabis, solvents and amphetamines, with only ecstasy prevalence similar to any

other countries. Seizures of amphetamines, cocaine and ecstasy across Europe have risen sharply in the way that they have done in Britain in the period 1990 - 1996 (EMCDDA, 1998). Britain departs from more general European seizure trends for cannabis and LSD, having higher rates of seizure of these drugs.

The most recent data on 15 - 16 year olds, collected in 1999, has only just been published (ESPAD, 2001). This confirms Britain again as having the highest lifetime drug prevalence rates, and also as having the second highest levels of lifetime alcohol consumption (more than 40 times). McKee (1999) observes that such data on drug use should be considered alongside Britain having the highest rates of teenage pregnancy in Europe and broadly questions public health policy in relation to young people.

The United States has historically had the highest prevalence rates of most forms of illegal drug use. Both Britain and the U.S. have experienced increases in cannabis and other drug use throughout the 1990s. Last year prevalence of cannabis among 12th graders in the U.S. is now at a similar level (approximately 20%) to last month prevalence among 16 - 19 year olds in Britain (Bachman et al., 1998; Ramsey & Partridge, 1999).

Triangulating these historical data, there can be little doubt that large increases in prevalence levels among young people have taken place since the late 1980s onwards. Bauman (1999) in an international review, considers such an increase to be a global phenomenon. Further, in the limited comparisons possible with other countries, Britain

appears to have the highest prevalence of illegal drug use among young people in Europe, and to have similar rates to the highest rates to be found elsewhere (EMCDDA, 1998; Bachman et al., 1998).

1.2.2. The Prevalence of Legal Drug Use: Cigarette Smoking and Alcohol Consumption among Young People in Britain

The General Household Survey in the U.K. is repeated biennially and provides a key source of data on the prevalence of smoking and drinking in the adult population. The latest results available are from the 1998 sweep of the survey (ONS, 2000).

The prevalence of cigarette smoking is found to be highest in the 20-24 age band (42% for men and 39% for women) with prevalence much higher in lower socioeconomic groups. London is the English region with the highest prevalence rate (33%), the same as that in Scotland, which has the highest prevalence rate of the four countries of the U.K. Those aged 16-19 years olds are the lightest cigarette smokers, with young men in this age band averaging 72 per week and young women 70 cigarettes. The wider age band 16-24 years has the highest proportions of those who smoke less than 10 cigarettes per day (12% men, 16% women). According to Dawe & Goddard (1997), 69% of current smokers report that they would like to stop and 83% of these cite health reasons.

When viewed in the context of change over time, these data give rise to many concerns, as most notably expressed in the recent White Paper on tobacco (Smoking Kills, 1998).

Across the population as a whole, the prevalence of cigarette smoking peaked in the 1950s and 1960s, since when there has been a long downward trend in cigarette smoking in the adult population. However, the trend over more recent years has been in the opposite direction among children and young people.

Since 1982 a nationally representative biennial survey has also taken place among secondary school children aged 11-15 years old (Goddard & Higgins, 1999). By 1996, cigarette smoking prevalence had increased from 10 - 13% in this younger age band. This mirrors a similar rise in prevalence among 16 -19 year olds in the same period, from 27 - 31% (ONS, 1998). Within the 11 -15 age band, prevalence rises steeply with age. In 1998, 1% of 11 year olds were regular smokers and approximately 80% had not ever tried smoking. At age 15, 24% were regular smokers and only 30% had never smoked (Goddard & Higgins, 1999). Dependence was found to be related to the length of time smoking.

Various gender differences are apparent. In 1998, prevalence was significantly higher among girls (Goddard & Higgins, 1999). However, among smokers, boys smoke more cigarettes, whilst being less likely to report dependence symptoms at equivalent consumption levels. Almost three quarters of all regular smokers aged 11 - 15 years old believe that they would find it difficult to give up. At this age, there are almost as many occasional smokers as regular smokers (Goddard & Higgins, 1999). Smoking is associated with having more money to spend, both from pocket money and from paid work. Eighty-two per cent of adult smokers begin smoking as teenagers (ONS, 1998).

Older adults tend to drink alcohol more frequently and in lower quantities than young people (ONS, 2000). The highest proportion of those drinking more than eight units in a recent day was among those aged 16 - 24 years old. Twenty-seven per cent of men drink above 21 units a week on average and 15% of women usually drink above 14 units a week. Among those aged 16 - 24, these proportions are much higher; 36% of young men and 25% of young women usually exceeding these levels. Over time, there are increasing proportions exceeding these thresholds of women in all age groups and men 24 and under (ONS, 2000).

Between 1990 and 1998 the average weekly amount of alcohol consumed doubled in 11 - 15 year olds (Goddard & Higgins, 1999). Most schoolchildren, however, drink little or nothing, whilst a small minority drink relatively heavily (4% of boys and 2% of girls had drunk more than 15 units in the previous week). As with cigarette smoking, drinking increases sharply within this age band. Almost 50% of 15 year old boys and 40% of girls reported drinking alcohol in the previous week. A decline in drinking was observed on a number of indicators in 1998 and it is not known whether this marks the end of a long term upward trend or not (Goddard & Higgins, 1999).

1.2.3. The Inter-Relationships between Cigarette Smoking, Alcohol Consumption & Illegal Drug Use

Goddard & Higgins (1999) identify that 11 - 15 year old secondary school pupils who drank were more likely to smoke and vice versa. For example, at age 15, only 7% of

those who did not drink were regular smokers compared to 38% among those who were weekly drinkers.

Relationships between these forms of legal drug use and ever having used illegal drugs were observed to be even stronger, especially in respect of cigarette smoking. Sixty-three per cent of regular smokers and 44% of weekly drinkers had ever used illegal drugs. In sharp contrast, only 1% of those who had never smoked and never drank respectively, had ever used any illegal drugs. Seventy-five per cent of those who are regular smokers and who drink at least once a week had tried illegal drugs compared to "virtually no" children who had used illegal drugs but not ever used legal drugs. Age, sex, smoking and drinking were all found to independently predict lifetime illegal drug use, with smoking the strongest predictor (Goddard & Higgins, 1999).

Miller & Plant (1996) in a nationally representative sample of 15 and 16 year olds across the U.K., similarly observed a strong relationship between cigarette smoking and ever having used cannabis. Here, 6.9% of those who had never smoked cigarettes had tried cannabis, whilst 89.2% of those who smoked more than 10 cigarettes a day, had used cannabis.

Sutherland & Willner (1998) in a six school survey of 11-16 year olds (with a sample size of 5383) observed a somewhat different pattern in respect of ongoing use. They found that alcohol played a central role in patterns of multiple drug use. In their sample, ongoing use of cigarettes and/or illegal drugs tended to occur in the presence of

ongoing alcohol use, with only 1.3% of cigarette smokers and/or drug users not also drinking. In a later survey (Sutherland & Shepherd, 2001) of 28 schools in four areas (n=9742), they observed a similar proportion of those who use only alcohol (37% compared to 39% previously), but a much higher proportion who smoked cigarettes only (23.5% compared to "virtually none"). Interestingly, despite this difference, similar proportions in both studies used all three drug types (9.4% earlier study, 11.7% more recent).

In an older population of British university students with a mean age of 20.9 years, further observations of co-use of legal and illegal drugs have been made (Webb et al., 1996). Here, 51% of current cigarette smokers were also regular (at least weekly) cannabis users, and those who had never smoked either cigarettes or cannabis consumed least alcohol on average.

Illegal drug use within the previous year has been related to legal drug use across the adult population in successive waves of the British Crime Survey (Ramsey & Spiller, 1997; Ramsey & Partridge, 1999). In 1996, 16 - 29 year old smokers and heavier drinkers (one unit a day and more) were found to be approximately two and a half times as likely to have used a drug as non-smokers and lighter or non-drinkers. This relationship was modified only slightly in those aged 30 - 59, with those in the same smoking and drinking categories being more than twice as likely to have used drugs (Ramsey & Spiller, 1997).

1.2.4. The Prevalence of Illegal Drug Use: Age, Gender, Ethnicity and Drugs Used

It is only within the last decade that nationwide representative surveys have taken place in Britain (Percy & Ramsey, 1997). The British Crime Survey is a biennial adult general population survey of victimisation that includes a self-reported drug use component (Ramsey & Spiller 1997). In addition to this survey, other notable developments in British drug prevalence study are as follows:

- A longitudinal study of teenagers from the ages of 14 - 18 in the urban north-west of England, which will be discussed in depth later (Measham et al., 1994; Parker & Measham, 1994; Parker et al., 1995; Parker et al., 1998a).

- 1995 & 1996 Health Education Authority national representative surveys of 11 - 35 year olds (HEA, 1996; Tasker et al., 1999).

- The British arm of a representative European study of 15-16 year olds (Miller & Plant, 1996; 1999).

- Repeat surveys of school attenders in local education authorities across England (Balding, 1996; 1997; 1998).

- Repeated national surveys of school attenders in Wales (Roberts et al., 1995).

As might be expected, lifetime prevalence rates far exceed those observed in recent

time periods, but unfortunately measures of current use are not available in these studies. Ramsey & Partridge (1999) report that whilst 49% of 16 - 29 year olds have ever used drugs, 25% have done so within the last year and 16% within the last month. Sixty-four per cent of those who have ever used any drugs have not done so within the last month. This latter 'recent use' category has been widely used as an indicator of current use. Aldridge et al. (1999) found however that this measure does not capture well current regular use and generally errs on the side of over-estimation.

As is the case for both cigarette smoking and drinking, illegal drug use increases sharply with age in the secondary school years (Goddard & Higgins, 1999). Beyond school-age young people, similar patterns have been observed in the national studies. Tasker et al. (1999) report that lifetime prevalence increases from 16% among those aged 11 - 14 year olds, to 40% in ages 14 - 16, to 54% in ages 16 to 19, and peaks in 20 - 24 year olds at 58%. After this, prevalence falls away to below the levels reported for 16 - 19 year olds. In terms of last year and last month use, the highest prevalence rates are found among 16 - 19 year olds, with recent use prevalences declining thereafter. These age specific patterns for those aged 16 and over were mirrored in all three waves of the British Crime Survey, with one exception. In 1994 (Ramsey & Percy, 1996) the highest lifetime prevalence rate was also found among 16 - 19 year olds.

Within the 16 - 29 age band, whether it be lifetime (58% men, 42% women), last year (33% men, 19% women) or last month (21% men, 11% women) prevalence, a substantial gender differential is evident (Ramsey & Partridge, 1999). Within this age

band, however, the gap between men and women narrows appreciably in younger sub-groups, particularly in respect of last month use (among 16 - 19 year olds, 25% men, 19% women). Similar patterns were evident in the HEA study (Tasker et al., 1999), which also found that among younger teenagers, the gender gap narrowed still further. Among 14 - 16 year olds, lifetime prevalence reported was 42% and 39% and last month prevalence was reported to be 13% and 10% for males and females respectively.

Similar observations are made in other studies. Miller & Plant (1997) find very minor differences between male and females at 15 and 16 in relation to illegal drug use, as do Sutherland & Shepherd (2001) among 11- 15 year olds. Goddard & Higgins (1999) find that there was a statistically significant overall difference between young males and females in lifetime prevalence rates across the ages 11 - 15 years, but that this was created by a gender differential of two or three percentage points at ages 14 and 15. Roberts et al. (1995) in analysing prevalence data over the period 1990 - 1994 find an increase over time being accompanied by a gender convergence. Among male 15 - 16 year olds lifetime prevalence increased from 24 - 40%, whilst female rates doubled from 20 - 40%.

An ethnic booster is added to the basic sample in the British Crime Survey which allows some exploration of ethnic differences in drug use (Ramsey & Spiller, 1997). Stable patterns across the 1994 and 1996 waves were observed with the highest prevalences in 16 - 29 year olds found among Whites, then Afro-Caribbean and then south Asian categories. An ethnic analysis of the 1998 dataset was not provided.

Cannabis is the most widely used illegal drug, and it is relatively rare for illegal drug use not to involve this drug. In the 1998 British Crime Survey (Ramsey & Partridge, 1999), lifetime prevalence rates were 49% for any drugs and 42% for cannabis, among 16 - 29 year olds. The equivalent data for last year use were: any drug 25%, cannabis 23%. In this time frame, 12% used cannabis only, 10% cannabis and other drugs and 3% other drugs only. Again, among 16 - 29 year olds last month prevalence of any drug was 16% and cannabis 14%. The 16% was comprised of 9% who use cannabis only, 5% who use cannabis and other drugs, and 2% who use other drugs only.

Among 15 - 16 year olds, lifetime experience with a range of drugs is reported by both Roberts et al. (1995) and Miller & Plant (1997). In both cases, lifetime experience of cannabis was approximately double the rate of any other drug use, averaging 31.9% (Roberts et al., 1995) and 38.0% (Miller & Plant, 1997). Other drug use with lifetime prevalence rates in the range 10 - 20% were found to be; solvents, LSD, amphetamines, magic mushrooms and nitrites.

Roberts et al. (1995) also report last month use rates of 19.6% for cannabis and approximately 6% for LSD, nitrites and amphetamines, with nothing else above 4% in 1994. Balding (1998) reports last month prevalence rates of 12% for 14 -15 year old females and 13.6% for males for any drug use. Interestingly, when asking about regular use, reported rates fall to 8.8% and 11% respectively for females and males. Of these 7.8% and 10.3% involve cannabis with amphetamines being the next mostly regularly

used drug, by 1.2% and 1.4% of females and males.

Quite similar patterns are observed in post-compulsory school age young people (i.e. aged 16-19 and 20-24), with stimulants being more prominent. According to British Crime survey data (Ramsey & Partridge, 1999), lifetime prevalence rates increase notably for ecstasy and cocaine use in the late 20s and are equal to or exceed rates in the late teens.

On examining individual drugs, more recent use is concentrated in the 16 - 19 year old age group, particularly for cannabis (19% last month) and to a lesser extent amphetamines (6% last month). The last month rates for these two drugs, and similarly low rates for other individual drugs were also reported in the HEA study, although this had taken place earlier (Tasker et al., 1999).

Amphetamines, LSD, magic mushrooms, ecstasy and amyl nitrite have been combined into a single category in the British Crime Survey (Ramsey & Spiller, 1997; Ramsey & Partridge, 1999). Recent use rates among 16 - 19 year olds and 20 - 24 year olds are similar in this respect at 12% and 13% (last year) and 8% and 7% (last month) respectively.

A comparison made with the previous survey indicated concern about trends in cocaine use (Ramsey & Partridge, 1999). Increase in last year use rates were observed among those aged 16 - 19 , 20 - 24, and 25 - 29. This trend was found to have an important

regional dimension with the proportions in London aged 16 - 29 who had used cocaine increasing from 4% to 9% between 1996 and 1998. Historically, London had higher prevalence rates for cannabis and other drugs than elsewhere in England and Wales (Ramsey & Percy, 1996), but these have otherwise largely disappeared (Ramsey & Partridge, 1999). Likewise studies of rural urban differences among young people in drug prevalence reveal that these have virtually disappeared (Balding, 1998; Barnard & Forsyth, 1998; Miller & Plant, 1999).

The general population prevalence evidence base is limited in a number of respects however. Data are not available on frequency nor quantities of use (MacDonald, 1999) and data on initiation and cessation are extremely limited. Estimating regular use levels on the basis of recent use is problematic (Parker et al., 1998a; Aldridge et al., 1999). Rigorous epidemiological study of risks and harms attendant upon use in the British context could reasonably be characterised as being at an early stage. Incidence levels, data relating to length of use and periods of abstention, nor the temporal sequencing of initiation are available. The relationship between the use of different drugs is difficult to discern with current data.

Beyond the general population household and school-based surveys, much higher prevalences of a wide range of drugs are observed in targeted samples. In a survey of students from ten universities (n=3075) across the U.K. (Webb et al., 1996; Webb et al., 1997). Twenty per cent of students (23% men, 16% women) were found to use cannabis weekly or more frequently, although only 7% of non-white students did so.

Weekly rates of use of most drugs exceeded what would be expected if this group were typical of the general population. For example, 3.5% and 2.7% used amphetamines and ecstasy on at least a weekly basis.

The highest rates of drug prevalence have been reported in night-club samples. Release (1997) in a samples recruited nationally (n=496), reported lifetime prevalence rates in excess of 80% for cannabis, amphetamines, ecstasy and LSD, and 62% for cocaine. Measham et al. (2001) reported lifetime prevalence rates for cannabis of 87%, amphetamines 77%, amyl nitrite 72%, ecstasy 67%, LSD 52% and cocaine 45%. Their sample (n=2057) was drawn from three night-clubs in a northern English city. Apart from alcohol and tobacco, the three drugs which were intended to be taken on the night of interview by more than 10% of the sample were cannabis (42%), ecstasy (36%) and amphetamines (32%).

The use of heroin, methadone or other opiates, crack cocaine, any drug by injection, or drugs other than already mentioned are usually found to be very low in the general population and in the above studies (see for example, Ramsey & Partridge, 1999). These include the drugs about which most public policy concern is expressed in relation to drug treatment and the relationship between drugs and crime (ISDD, 1997). Methods other general population surveys are required to further quantify these forms of drug use.

These trends reviewed above involve the risk factor, drug use, rather than the aetiology

of harms. Relatively little data are available in this country and elsewhere which allow the construction of exposure-outcome models which underpin preventive activity in other fields (Rose, 1992). Problems associated with drug use in young people and reported studies of young people commonly take the form of nomination of positives and negatives, likes and dislikes, or costs and benefits. Parker et al. (1998a), for example described negative experiences associated with drug intoxication, whilst the HEA studies (HEA, 1996; Tasker et al., 1999) reported on likes and dislikes.

Farrell et al. (1998) provided estimates of cannabis and other drug dependence among homeless populations in Britain in the national co-morbidity survey. Cannabis-only dependence (not combined with other drug dependences) was observed in 8% of all those using hostels, 6% in private rented accommodation, 18% using night-shelters and 18% who were sleeping rough but using day centres. These data are not age-specified but young people are known to be increasingly prominent in homeless populations.

1.2.5. The Influence of Deprivation on Drug Use among Young People in Britain

Recently, British study of the influence of deprivation on mental health generally, and on drug use and drug problems, has been extended (Lewis et al., 1998; Farrell et al., 1998). A wide range of inequalities in physical and mental health have been found to correlate with various measures of socioeconomic deprivation. The ACMD recently made the striking statement that;

"on strong balance of probability, deprivation is today in Britain likely often to make a

significant and causal contribution to the cause, complications and intractability of damaging kinds of drug misuse." (ACMD, 1998)

Examination of the influence of socioeconomic status in the household surveys shows only minor variation in overall prevalence rates among young people. The HEA studies identify the lowest social class as having a slightly higher prevalence rate than other groups (HEA, 1996; Tasker et al., 1999). Additionally identified is a higher acceptance rate, the probability of taking drugs having been offered, in this group. The British Crime Survey identifies the highest prevalence rates among "affluent urbanites", with the lowest area-based socioeconomic status category as having average recent rates (Ramsey & Spiller, 1997; Ramsey & Partridge, 1999). Household income and unemployment status both serve to identify those who are relatively deprived as having higher recent prevalence rates in these datasets.

A series of studies in the 1980s identified deprived industrial towns and the most deprived areas within those towns with heroin epidemics (Pearson 1987; Parker et al., 1988; Gilman & Pearson, 1991). The availability of smokeable "brown" heroin, particularly for young working class men, at times of rapid increases in unemployment in the context of major economic restructuring, was emphasised. Recently, the attraction of heroin among deprived young teenagers, has been restated in a survey of agency reports of "new outbreaks" (Parker et al. 1998b).

The limitations of the British evidence base were noted by the ACMD (1998) and

supplemented by a review of the international literature. The small number of British studies reviewed included; an ecological study of national patterns of volatile substance abuse mortality (Esmail et al., 1997; Taylor et al., 1997); another ecological study, this time of treatment initiation in London (Jones et al., 1995); and a national survey of individual psychiatric morbidity which included data on drug dependence (Farrell et al., 1998).

In the first study, ward level deprivation data were correlated with episodes of solvent-related mortality to produce highly significant differences according to degree of deprivation mortality (Esmail et al., 1997; Taylor et al., 1997). These data relate to young teenagers in the main and include a substantial proportion of mortality associated with first episode of use. Much later in drug using careers, the second study (Jones et al., 1995) highly correlated new treatment attendances with an under privileged area index.

The third study referred to investigated the relationship between dependence (on any illegal drug) and deprivation scale among individuals aged 11 - 35 and drawn from a representative general population sample. Odds ratios for dependence were found to increase sharply with deprivation. An index of deprivation was used including unemployment, living in rented accommodation, not having use of a car, and manual work status. People for whom all these things were positive were very nearly ten times as likely to be drug dependent as those for whom none of these things are true (Farrell et al., 1998). The ACMD concluded in respect of illegal drug use that;

"Rather than deprivation being strongly related only to the simple fact of use "ever", it may relate more subtly to age of first use, progression to dependence, intravenous use and risky use, health and social complications of use, and to criminal involvement. We would expect the connection to be strongest for the extremes of problem drug use, and weakest for what might be termed casual, recreational or intermittent use." (ACMD, 1998)

It may be the case that, heroin and injecting drug use, for example, are strongly associated with deprivation. Additionally, it is conceivable that the gateway perspective is applicable to such drug use, with observed inter-relationships between legal and early illegal drug use extending much later into drug-using careers.

1.2.6. The North-West Longitudinal Study

This study took place in the urban north-west of England through the early to mid-1990s and stands out as the only British study of its type to be found in the literature. Participants were initially recruited at the age of 14 and data collected annually via self-completion questionnaire until the age of 18. Sampling was not undertaken randomly, with participants recruited from 8 schools in Greater Manchester and Merseyside which were selected to be representative of those areas (Measham et al., 1994; Parker & Measham, 1994; Parker et al., 1995).

There are a number of epidemiological limitations to be considered which are relevant

to interpretation of the data which follow. There was substantial attrition over the course of the study. Of the 776 initial year 1 participants, only 229 provided data each year until year 5 (Parker et al., 1998a). Also, because schools were the sampling units and whole classes were surveyed, participants were recruited to the study in years subsequent to year 1. As a result, it seems likely that the majority of year 5 data was collected from participants recruited after year 1 (up to 300 of the 529).

The authors report that attrition was not random (Parker et al., 1998a). Those lost were disproportionately working class, male, non-white, not in A-level education, and had tried drugs and were drinking at 14. The authors recognise that the results cannot be taken to be representative in the way that initial sampling aspired (Parker et al., 1998a), but the implications of attrition for the data presented are not known to have been anywhere elaborated. Notwithstanding these remarks, this study offers insights into the nature of the development of drug use patterns in British teenagers which are simply not available elsewhere.

An interesting interaction is apparent between social class and gender in respect of age of initiation of drug use (Parker et al., 1998a). At age 14, a small difference is observed in lifetime prevalence by gender (with female 37.7% and male 35.2%) and a relatively largely class difference (middle class 30.8% and working class 42.4%), in line with the suggestion made by the ACMD (1998). At age 16, the small gender difference is reversed with males slightly higher than females (female 49.3% and male 52.4%) but the substantial class difference has only slightly narrowed (middle class 47.9 and

working class 57.1). By age 18, broader adult prevalence characteristics in terms of gender and social class begin to be replicated in this cohort (female 62.0%, male 67.4%, middle class 64.1%, working class 64.4%). The above observations are consistent with the generalised interpretation that gender differences are less acute in younger teenage working class people, who initiate drug use earlier. It should be remembered that it is largely cannabis use being considered.

Among those for whom a complete dataset was available over the five years (n=223), four groups were distinguished, according to lifetime and recent drug use, future intentions and self-perception in relation to drugs (Parker et al., 1998a): 1. "Current users" were defined as those who had previously taken drugs, intended to do so again and saw themselves as a drug user. 2. "In transition" did not see themselves as drug users, but otherwise shared the characteristics of current users. 3. "Former-triers" had previously taken drugs, often experimentally, but did not intend to use again an did not see themselves as drug users. 4. "Abstainers" had never tried drugs and did not intend to in the future. In terms of future intentions, at age 18, 90.2% of current users expected to try or re-try illegal drugs other than cannabis, as did 50.3% of those defined as in transition (Parker et al., 1998a).

Among the cohort of 223, these groups were retrospectively compared and found to be distinct in terms of smoking and drinking profiles in earlier teenage years. Differentials in proportions smoking were observed across the age range. Thirty-three per cent of those later categorised as current drug users had ever smoked cigarettes at age 14,

rising to 67% at age 18. The equivalent proportions for abstainers were 13% rising to 32%. Even more striking, is the comparison for ongoing cigarette smoking. The proportion of those who become current drug users at 17/18 years old, who were smoking cigarettes doubled from 19% to 38% between the ages of 14 - 18. Abstainers who smoked declined from 9% to 3% over the same period.

In terms of alcohol consumption, it is in the prevalence of weekly drinking that differences between the groups strongly emerge. At 14, 84% of those who were to become current drug users had already drank alcohol, as had 68% of those who were to be identified as abstainers. By age 18, only 1.6% of current drugs users had never reported weekly drinking, as compared to 22% of abstainers. Three-quarters of current drug users were drinking on a weekly basis by the age of 16, compared to 44% of their abstainer contemporaries.

Among the 246 participants for whom complete data were available at age 17 (Measham et al., 1998), past year use patterns identify interesting age-related trends in the use of different drugs. Solvent use declines steeply with age, and LSD and nitrite and magic mushroom recent use declines after 15 (LSD) and 16 years (nitrites and magic mushrooms) respectively. Amphetamine and ecstasy use on the other hand increases with age. According to Measham et al. (2001);

"The dance drug users predominantly come from the significant minority of adolescents who tend to be smokers, are regular drinkers and early illicit triers...They are probably

joined by later 'entrants' who are likely to have the characteristics of the in-transition group"

Two other longitudinal studies have been undertaken by this group in northern England which present a similar picture to these data (Measham et al., 2001). Their account of the normalisation of illegal drug use (Measham et al., 1994; Parker et al., 1998a) has attracted much attention. By this they refer to the widespread availability of drugs and cultural acceptance of drug experimentation and use among young people. They see the transformation of drug use among young people as related to wider cultural changes, requiring risk taking and risk management as a life skill (Parker et al., 1998a). One of the implications of this analysis that has been drawn out is the likelihood that rates of lifetime prevalence will soon plateau, as they approach a postulated third of young people who are committed abstainers. Lifetime prevalence in the U.S. peaked at 70 - 75% among high school seniors in early 1980s (Kandel, 1991).

Much less certain is the fate of the generation of 1990s teenage drug users (and their successors) in terms of their longer term levels of drinking, smoking, cannabis and other drug use (Measham et al., 2001). Similarly, it is unknown whether such teenage drug involvements are associated with later involvement in heroin, crack cocaine, injecting drug use, or future drug problems and dependence.

Despite these and other limitations to the evidence base discussed earlier, it appears clear that epidemiologically-based needs, defined as the ability to benefit from

intervention (Stevens & Raftery, 1994), are identifiable. Current provisions and the changing public health and broader public policy contexts within which such intervention may be developed remain to be considered in advance of the formulation of a public health response.

1.3 Current Policy and Service Provision for Young People

1.3.1. Alcohol & Tobacco Use Policy

The research base for a national alcohol policy in Britain was assembled by scientists and recently published (Raistrick et al., 1999). The government has indicated an intention to prepare such a policy, but at the time of writing (August 2001) this has not been achieved. As a result, there does not exist a formal policy statement which includes current policy in relation to alcohol consumption among young people. Service provisions dedicated to alcohol consumption among young people are not known to have been developed and evaluated apart from informational and mass media interventions.

Action on smoking in the general population, on the other hand, has been identified as a priority, making *"a critical contribution towards achieving the overall aims of our public health strategy"* - in the form of the White Paper "Smoking Kills" (1998).

The central goal of this policy is to achieve a reduction in smoking across the population. To achieve this, objectives have been set to reduce smoking among children and young people, and to help adults, particularly the most disadvantaged and pregnant women, to give up smoking. Smoking cessation services were identified for significant expansion and a European directive on the ending of tobacco advertising, sponsorship and promotion to be implemented. A major investment in public education via mass media is to be undertaken, including the targeting of young people's media products e.g. teenage magazines (Smoking Kills, 1998).

Specifically in relation to children and young people, four environmental action areas were targeted: Minimizing tobacco advertising in shops; tough enforcement on under age sales; proof of age card; and controls on vending machines. Cessation services for young people are not included in the strategy, but parents and those working with children and young people are identified as supports for those wishing to stop. Study of the most effective methods of helping schoolchildren to stop is among the research priorities identified. A prevalence reduction target has been set for 11-15 year olds, with a 2% reduction to be achieved by 2005 and a further 2% by 2010 (from a baseline of 13%).

1.3.2. Drug Use & Wider Youth Policy: Recent Developments & Changing Service Provision

1998 saw the launching of the new Labour government's ten year strategy on drugs; "Tackling Drugs Together to Build a Better Britain". It builds upon the previous strategy, "Tackling Drugs Together" (1995) and adds further emphasis on long term co-ordinated public policy which addresses social and environmental factors. In particular, this ten year national drugs strategy is to be implemented in synchrony with a broader social exclusion agenda (see later discussion). A key element in this is the aspiration to shift public resources away from reactive response towards investment in prevention.

The strategy has four main elements; young people; communities; treatment; and availability. Public health considerations occupy places in both the young people and

treatment sections reflecting attention to future and current harms respectively. Although there are obviously public health aspects of community protection and the control of drugs availability, these sections have been formulated primarily as aims and objectives to be delivered by the criminal justice system.

The aim of the "Young People" element of the strategy, *"To help young people resist drug misuse in order to achieve their full potential in society"* , endorses both primary and secondary prevention/harm minimization in its' inclusion of the following supporting statement (Tackling Drugs Together to Build a Better Britain, 1998):

"Young people...need to be prepared both to resist drugs and, as necessary, to handle drug-related problems. Information, skills and support need to be provided in ways which are sensitive to age and circumstances, and particular efforts need to be made to reach and help those groups at high risk of developing very serious problems."

The UK Government Spending Reviews undertaken by the Labour government since 1997 have resulted in increased investment in prevention activity which targets young people (UKADCU, 2001). Initially an additional £63m was allocated for three years with effect from 1998/99, and later a further £152m for the years until 2004. At the time of writing (August 2001) some developments have been implemented since the national strategy publication but most remain at the planning stage. Among the most notable changes in service provision has been the recent emergence of drug services specifically dedicated to young people, which have been commissioned in some

localities. Nationally, Youth Offending Teams have been formed in all localities, incorporating drug specialist provision.

Ambitious planning has taken place which will transform drug prevention provision for young people. The aspiration is to plan and provide an integrated and co-ordinated range of provisions for all under 19s, including legal drug use (UKADCU, 2001; Drugscope/DPAS, 2001). Developing drug prevention services are to be planned within wider provision for children and vulnerable young people. These are defined as young people (Social Services Inspectorate , 2001);

"whose life chances will be jeopardised unless action is taken to meet their needs better, and reduce the risk of social exclusion..., broadly what can happen when people or areas suffer from a combination of linked problems such as unemployment, poor skills, low incomes, poor housing, high crime environments, bad health and family breakdown"

In addition, a range of groups which are vulnerable to substance misuse have been identified in line with the national drug strategy (Tackling Drugs Together to Build a Better Britain, 1998; Drugscope/DPAS, 2001). A national joint commissioning body, the Drug Prevention Board, has been established along with DPAS, the regional level Drug Prevention Advisory Service (UKADCU, 2000). Local plans are to be drawn up by Drug Action Teams within a four tier framework established in an earlier report (HAS, 1996). Implementation is to take place in stages (UKADCU, 2001). It is hoped that;

"The integrated approach will ensure that by 2004, in every DAT area, there will be substance misuse education and information for all young people and their families; advice and support targeted at vulnerable groups; early identification of need; and tailored support to all those who need it when they need it."

The intention of integrated service provision for young people specifically involves a commitment to developing drug prevention activity within the context of generic provision for young people (UKADCU, 2001). A 'Four Tier Service Planning Model' model was recommended in a report by the Health Advisory Service (HAS, 1996) but was not implemented nationally. It is currently being reviewed and forms the basis of guidance to DATs on how to organise local provision (UKADCU, 2001). Guidance includes material on types of provision, service descriptions and commissioning arrangements. The four tiers are as follows:

Tier 1 refers to universal provision for all young people of school age. This comprises education, information, advice and referral arrangements in and out of schools, and to parents and carers. The implementation of drug education in schools has been one of the major areas in which progress has already been made (UKADCU, 2000).

Tier 2 refers to targeted services for vulnerable young people beyond school settings. In addition to Tier 1 content, age appropriate screening, assessment and intervention are recommended. Drug users, who may or may not be vulnerable otherwise, are to be

targeted by youth oriented services. These are intended to be major modes of service delivery and it is to be expected that those with drug problems should be identified by this tier of provision.

Tier 3 refers to specialist non-medical services for those young people with drug problems. Counselling and care management, family support, and referral services are to be delivered by young people's drug services, or community drug or mental health teams.

Tier 4 refers to the small numbers of young people and their carers for whom medical or other intensive services are needed. Community or residential prescribing and detoxification, and time away from home in a range of possible locations are the types of services to be provided.

The importance of youth policy and this concentration on the vulnerable to the drive to reduce social exclusion is apparent when considering the output of the Social Exclusion Unit. Of the first five reports, three dealt with children and young people (Coles, 2000). One of these has resulted in what has become known as the Connexions strategy, a central strand of youth policy. This strategy arose out of the identification of the long term persistent effects of youth unemployment, not being in education, employment or training (NEET) in the years following compulsory schooling (Social Exclusion Unit, 1999; Elliot, 2000).

The planned response involves making the curriculum flexible, ensuring high quality and offering something for all in mainstream education. Targeted financial support will be made available and a Connexions Service launched (DPAS, 2000; Elliot, 2000). This will offer information, advice, guidance and support to all vulnerable 13-19 year olds, via a personal advisor. Connexions partnerships will be established locally to deliver these services. Drug use as a risk factor for social exclusion will be embraced by these new services. A briefing has already been issued to Drug Action Teams on the Connexions Service (DPAS, 2000).

The recency of Labour government policy innovation in these areas, and the long term implementation orientation provide little opportunity for evaluation. Those elements of the strategy which had started earlier or have been quickly implemented provide an exception. For example, drug education in schools was enhanced following a report by the ACMD (1993a) and reviewed by Allot et al. (1999), in terms of both effectiveness and consistency with broader policy. They found that the range of methods currently delivered by police officers, teachers, peers or parents could not be characterised as being both effective and consistent with government policy.

In relation to definitions of vulnerable groups who may benefit from drug prevention activity, concerns have been expressed as to the science base for such targeting.

"Practice and policy appear to be moving on apace, despite a lack of clarity about what terms such as 'high risk', 'at risk', 'vulnerable' or 'socially excluded' groups might mean

and a real absence of information about the nature of drug use among the groups associated with these labels. If such information is not forthcoming, it is likely that those interventions that develop will be at best ineffective and at worst counter-productive."

(Lloyd & Griffiths, 1998)

A more positive appreciation is to be found in the assessment of Coles (2000) in respect of broader youth policy. He discerns what he terms "a new orthodoxy" , in an apparent consensus between policy makers and youth researchers on a holistic approach to the policy problems posed by youth. Characteristics of this approach include sensitivity to childhood experiences, to the expectation of difficulties in transitions into adulthood, and to the dangers of labelling. Services which are holistic in orientation, encourage the active participation of young people and which are realistic in needs assessment and in relation to labour market opportunities are indicated (Coles, 2000).

1.4 The Harm Minimization Perspective

1.4.1. Core Features of Harm Minimization as an Approach to Risk-Targeted Intervention

Primary prevention has been defined *as "reducing the risk of an individual engaging in drug misuse"*, with secondary prevention defined as "*reducing the harm associated with drug misuse"* (ACMD, 1984). Secondary prevention concepts and interventions were developed significantly in the 1980s and early 1990s to assist HIV prevention, particularly among injecting drug users (ACMD, 1988; Newcombe, 1992; Strang 1998). These ideas have become widely known and adopted as harm minimization. This has been defined by Single (1995) as;

"a policy or programme directed towards decreasing adverse health, social and economic consequences of drug use even though the user continues to use psychoactive drugs at the present time."

It thus broadly describes interventions with those already using drugs, without a primary abstinence focus. It has been observed that such an orientation was not entirely novel as it had been previously applied to legal drugs, most notably including alcohol (Erickson, 1995).

The application to HIV prevention among injecting drug users, has been particularly promoted as an exemplar of the core components of harm minimization in practice. Short term objectives and incremental gains are prioritised over longer term changes;

injectors are encouraged to clean injecting equipment if being shared; not to share injecting equipment, and subsequently to reduce the frequency of injecting (Strang, 1992). This "hierarchy of objectives" (Newcombe, 1992) usually relates to risk behaviour rather than harm itself, where risk was defined as the probability that harm would ensue (Strang, 1993).

The ethos of intervention is one of pragmatism or *"the acceptance of the imperfect"* (Strang, 1998), to secure any health promoting change that was available and where *"second best may be best first"* (Strang & Farrell, 1992). Prescribing was developed as a tool with which to enhance the attractiveness of services and to aid with retention (Strang 1990). Improving healthcare services for drug users included the idea of a "well drug-users clinic" (Strang et al., 1989), the underlying principle of which is to make the user increasingly "health conscious" , without the necessity of a prior commitment to cease drug use (Stimson & Lart, 1991).

The adoption of a broader public health approach concerned with risk, rather than a clinical focus restricted to consumption or the treatment of dependence produced fundamental policy changes (Strang, 1998). Throughout the 1990s, prevention was re-conceptualised as offering under-utilised and unexplored opportunities for intervention (Strang, 1994). The ACMD (1993b) recommended intervention earlier in drug-using careers to secure diversion away from higher HIV-related risk. New possibilities for intervention objectives identified have included the prevention of progression and reversal from new higher-risk routes of administration (Hunt et al., 1998; 1999).

These applications reflect a basically utilitarian approach to public health (Mugford 1993), where the lowest levels of harm practically possible within the population were sought. Cost-benefit calculation underpinned this theoretical model and has been described as a "balance sheet" approach to intervention outcome assessment (Strang, 1992). One typology (Newcombe, 1992) distinguishes type of harm (e.g. economic, social, legal, health) from level (whom it impacted upon; e.g. individual, friends/family, community). To this basic device, additional axes have been suggested; timing of onset of harm; duration of harm; and some measure of severity of harm (Newcombe, 1992; Strang, 1992; Heather, 1995a). Harm so constructed could be measured in the long term and set against a similar matrix for benefit.

Because of the controversial nature of the subject of drug use, the value of scientific methods of data collection have been emphasised (Strang 1992; Heather 1995a). Harms may be some way removed from drug use events, and be implicated with other sources of harm. Measurement issues have proven to be difficult, however, and surrogate indicators of harm have been recommended (Lenton & Single, 1998). Strang (1993) identifies not only the desirability of targeting of risk, but its relative proximity to potential intervention, in contrast to many harms.

1.4.2. Applications in the Context of Recently Rising Drug Prevalence Levels

Harm minimization, possibly like any recently innovative body of ideas, has been interpreted in a number of different ways. Lenton & Single (1998) criticise what they

term "broad definitions" as being over-inclusive, in that they fail to exclude any policy that has any orientation on adverse consequences. Harm minimization proponents have become involved in debates about broader drug policy and the merits or otherwise of legalisation (Strang, 1993).

Differences in political philosophy underlie some of the varied interpretations of these ideas, as do varying views on the centrality of consumption: How far is it justifiable for the state to go in seeking to influence consumption? Heather et al. (1993) define harm reduction as "not necessarily" requiring reduction in consumption. The main challenge to this interpretation would appear to come from those who are principally concerned with limiting drug use within the population as the principal instrument of harm minimization. A view justifiable in the context of close relationships between consumption and harm (Heather, 1995a).

A good example of this is the strategy of "containment" outlined by Hellawell (1995). This argues that the current array of policy controls cannot and should not aspire to "eradicate" drug use, in light of both powerful supply forces constituted on a global criminal basis and high levels of demand particularly among the young. Rather "containment" involving multi-agency collaboration and long term demand reduction offer the only feasible objectives. In this view, aggregate harm conceptualised at the societal level, is given policy precedence over harms to populations of drug users alone. The complementarity of harm minimization and primary prevention as involving simply differing strategies to achieve the same goal has been stressed particularly by

proponents in the American context (DesJarlais, 1996).

Other harm minimizationists would take issue with the focus on consumption itself rather than on harmful consequences in the account above. Lenton & Single (1998) specify that harm rather than use should be the primary policy goal and that intervention with ongoing users is a required strategy for the achievement of this. Their definition does not though preclude an abstinence or consumption reduction orientation.

In considering further the nature of possible benefits of harm minimization intervention, two elements of this task have been readily identifiable: The first concerns what may be termed the logic of prevention or early intervention and relates to Tier 2 of the examined framework for service planning (HAS, 1996). Action addressing earlier stages of drug using careers may have the potential to assist diversion to less harmful outcomes. (ACMD, 1993b). This occurs because the intervention modifies the relationship to the risk factor (drug use). In so doing, increased involvement in drug use, heroin use, drug dependence or injecting drug use or other long term social exclusion outcome may be prevented.

Those who are vulnerable to progression to the types of outcomes identified above are potentially currently experiencing harms or problems attendant upon drug use patterns. Tier 2 intervention serves to identify such young people. These harms can be broad ranging in nature and may pre-dispose the user to accept intervention which appears to address their needs. The objective and content of such interventions will be examined in

the next two chapters.

Conclusions

Internationally, changing patterns of drug use among young people, both within and between drugs, have attracted much epidemiological attention, more so than the harms observable in wider general population samples. Both provide reasons, however, for public health inspired attention to this area. In the contexts of both international comparisons and comparison over time, the 'headline' prevalence rates of illegal drug use in Britain give cause for concern.

Detailed study of available British data provides further evidence of epidemiologically based needs for population-wide preventive intervention. This conclusion is reached notwithstanding the limitations to that evidence base. Trends in cigarette smoking and alcohol consumption give rise to concern in their own right as well as in connection with their relationship with other drug use. Gender, ethnic and social class differences are apparent in widespread age-related drug use patterns, whilst the role of deprivation is believed to be most significant for the most high-risk forms of drug use and for drug dependence and problems.

Current public policy requires the development of new forms of preventive intervention in relation to social exclusion including drug use. Opportunities to innovatively target interventions are supported along the spectrum of drug use involvement. An intervention focus on risk rather than harm, and provided it embraces longer term

outcomes, appears warranted. The emerging policy emphasis on vulnerability to social exclusion points to further implications for intervention: Drug use should not be targeted in isolation from other social exclusion-related risk.

CHAPTER 2: BRIEF INTERVENTIONS DESIGNED TO CHANGE ALCOHOL, TOBACCO & OTHER DRUG USE

2.4.3. The Incorporation of Motivational Elements in Brief Interventions for Injecting Drug Users to Minimize HIV & Other Risk

2.4.4. Brief Interventions with Cannabis Users

2.5 Preventive Interventions Targeting Children

2.5.1. The Content of Interventions Targeting Children for the Prevention of Tobacco, Alcohol & Other Drug Use

2.5.2 The Effectiveness of Preventive Interventions Targeting Children

Conclusions

Synopsis

The general characteristics of brief interventions are introduced before more detailed study of their application to tobacco and alcohol use. The evidence base for their efficacy in these areas is examined in order to determine why it is that they appear to be so effective. In relation to alcohol, the emergence of an understanding of change promotion based upon the centrality of motivation is explored. Similarities with recent developments of initiatives to promote cessation of cigarette smoking are identified. Attention is then given to interventions which have been used among illegal drug users for HIV and other risk reduction purposes. The literature on the prevention of cigarette, alcohol and other drug use among children and young people is briefly reviewed and found to be clearly distinct from previous data. Conclusions are drawn as to promising possibilities for the adaptation of intervention elements from these literatures to meet the needs identified in Chapter 1.

Introduction

The available epidemiological evidence has been examined in the first chapter, alongside the public policy parameters of interventions with existing and future populations of young people who may be drug users. In this chapter, the nature of such intervention is considered through scrutiny of the evidence base for interventions with various populations of drug users, focusing particularly on what have come to be known as "brief" interventions.

Some preliminary comments on the approach taken to the review of this literature are warranted. Historically, interventions targeting different drugs have developed relatively autonomously. As a result, the review in this chapter has been structured according to intervention targets. An integrative orientation has been adopted with comparative assessment, across drugs used and related behaviours, found to be analytically helpful. A literature-based account of the development of intervention under study is presented in Chapter 3.

An integrative approach might be expected to be most fruitful when there are underlying similarities among the objects of intervention. In considering the use of legal and illegal drugs and other addictive behaviours, Orford (1985; 2001) observes psychological commonalities among what he terms '"excessive appetites", and also between addictive and non-addictive behaviours. If common psychological processes are indeed associated with addictive behaviours, then interventions found to be effective in one area may have the potential for effective application in another. As will be seen, this

possibility informs the central hypothesis under investigation.

2.1. General Characteristics of Brief Interventions

Heather (1989) has identified various characteristics of Brief Interventions as they have been applied to alcohol and tobacco smoking. Populations beyond the realms of traditional treatment services for dependent or problem users are targeted (though these may also be targeted). This is done through generalist services, with general practice the setting in which they have been most extensively researched (Richmond & Anderson, 1994a; 1994b; 1994c).

Brief Interventions are time-limited in the sense that they take less time than that which is normally associated with specialist interventions. The task of formal definition has been compared to *"defining the length of a piece of string"* (Heather, 1989), implying both a concern for temporal distinction and a dissatisfaction with such a definition.

How long are brief interventions usually? The shorter interventions described in published literature take only a few minutes to deliver (Babor & Grant, 1992). These are sometimes described as 'minimal" interventions (Heather, 1995b). On the other hand, multi-session interventions involving many hours of intervention are also included as "brief interventions" in the literature. The lengthier brief interventions can involve 4-6 sessions and a similar number of hours of intervention (Miller et al., 1992; Richmond et al., 1995).

The term has come to be used for a wide variety of techniques utilised across a range of healthcare disciplines which make some claim to the label "brief". A review by

Heather (1995c) in respect of alcohol applications urged that they be considered as;

"a family of interventions varying in length, structure, targets of intervention, personnel responsible for their delivery, media of communication and several other ways including their underpinning theory and intervention philosophy"

Brief interventions are usually offered within a health promotion framework at the individual level, and wide application within populations is promoted as a means of securing desirable public health gains (Heather, 1996). These features ensure that despite their heterogeneous nature, brief interventions should properly be interpreted as a distinct intervention category:

"brief interventions represent a set of principles regarding intervention (arising from the public health approach to alcohol problems) - a set of principles different from, but not necessarily in conflict with, those underlying conventional treatment interventions."

(Heather, 1996)

In terms of content, a distinction is frequently made between advice, and what has been termed "condensed cognitive-behavioural treatment" (Sanchez-Craig (1987) cited in Heather, 1989). Brief interventions are also usually considered to include self-help and its facilitation (Heather, 1995b).

All three (advice, condensed psychological intervention and self-help) can be

constructed to accord primacy to the seeking of enhanced motivation for behaviour change. They, almost by definition, rely upon the self-management faculties of the individual concerned (Heather, 1989). Also, they are *individualised* in the sense that individual consumption, risk and harm data inform intervention content (Miller et al., 1988; Richmond, 1996). They may differ in important ways including in matters of directiveness and style and the general strategy used for invoking motivational change.

They are usually deemed inappropriate for those with high levels of dependence, for whom more intensive behavioural or pharmacological treatments are offered (Heather, 1995b). As a result, younger, less severely problematic users are important "early intervention" targets.

Health promotion objectives differ across drugs and perspectives on their use. Cessation has been the usual aim with smokers, though recently attention has been given to reduced smoking as am intervention aim (Hughes, 2000). Moderation or reduction is the most typical goal for alcohol, where life-long abstinence is seen as potentially problematic and unnecessary (Heather, 1989).

Brief interventions are usually formulated for opportunistic delivery. They have also been developed as alcohol treatments following evidence of similar levels of effectiveness as more intensive interventions with consequent cost-effectiveness benefits (Miller et al., 1995).

High level population-wide service usage of general practice allows access to target groups in a setting thought to be conducive to intervention of this type (Richmond & Anderson, 1994a). This potential for reach, allied with accumulated efficacy and effectiveness evidence, make for huge impact potential (Prochaska, 1996).

Educational aspects are frequently emphasised to diminish concerns about social desirability or stigma (Miller et al., 1988; Heather, 1995b). Interventions may be offered routinely to all at risk, following screening or as indicated. They have also been used as components of community-level interventions (COMMIT, 1995a).

2.2 Alcohol Interventions

2.2.1. The Context of the Development of Brief Interventions for Hazardous & Problem Drinkers

The modern public health approach to alcohol consumption and problems, has evolved from, and succeeds, a wide range of earlier views on this subject (Hester & Miller, 1995). Disputes over the nature of difficulties involving alcohol have been active for centuries and continue to be reflected in the contemporary literature.

A wide range of different treatments or interventions have been developed and tested over the past half-century. A comprehensive review by Emrick (1975) identified 384 studies of "psychologically oriented treatment of alcoholism" having been reported between 1952-73. In a recent meta-analysis, Miller et al. (1995) examined 219 studies, the vast majority of which were published subsequently to and thus not included in Emrick's review. Thirty types of intervention were found to have three or more studies examining their efficacy (Miller et al., 1995).

Thinking about interventions for problem drinkers was revolutionised by a study reported almost twenty-five years ago by Edwards et al. (1977). A recent assessment of the alcohol treatment literature (Moncrieff & Drummond, 1998) found this study to have been more cited than any other. Outcomes were contrasted for socially stable men following either 'treatment' or 'advice'.

Following attendance for comprehensive assessment with spouses/partners, 100 men

were randomly allocated to receive either a single session of advice, or treatment as was usually given at the time. This involved some months of intensive intervention and included support for partners, in-patient admission where it seemed indicated, introduction to Alcoholics Anonymous and drug prescription when deemed necessary. Few differences in a wide range of outcomes were apparent between the two groups after twelve months, and none were statistically significant (Edwards et al., 1977). A later follow-up study replicated this finding (Taylor et al., 1985). The absence of additional benefit attributable to the intensive (and relatively expensive) treatment was to set the scene for the development of brief interventions.

Attention to non-treatment interventions for those with alcohol problems developed rapidly throughout the 1980s. The general hospital and primary care settings were identified as appropriate settings for the conduct of controlled trials, and as contexts in which might be possible to influence heavy drinkers to reduce drinking, in comparison with no-treatment controls (e.g. Chick et al., 1985; Wallace et al., 1988). 'Early' interventions were conceptualised as important means to minimise harm before major problems developed (Babor et al., 1986). In addition to these factors, Sanchez-Craig & Wilkinson (1989) identified the rise of behavioural methods, the development of a continuum model of dependence and shortages in health care resources as providing impetus for the expansion of brief interventions.

Alongside this wider attention to alcohol problems and risk in the general population (i.e. not just in treatment populations), alcohol treatment itself has changed enormously. The

"matching hypothesis" has governed much thinking about how alcohol treatment could be improved. Rather than asking which treatment worked best, research questions evolved towards asking which treatments were best for whom (Institute of Medicine, 1990; Miller, 1992). Thirty-one studies from the 1970s onwards were identified in a review which investigated interactions between client characteristics and interventions and their components (Mattson et al., 1994). This research ultimately led to Project MATCH, a large multi-site study of the effects of three interventions and a series of primary and secondary matching hypotheses (Project MATCH Research Group 1997a; 1997b; 1998).

2.2.2. The Effectiveness of Alcohol Brief Interventions

A series of reviews were published throughout the 1990s (Effective Health Care Bulletin, 1993; Bien et al., 1993; Richmond & Anderson, 1994a; 1994b; 1994c; Heather, 1995b; 1995c; 1996; Barnes & Samet, 1997; Wilk et al., 1997; Watson, 1999), which have sought to evaluate the existing data from 15 - 20 years of clinical trials and to consider the progress and potential of further interventions. These reviews, along with a meta-analysis of the alcohol treatment literature (Miller et al., 1995), have varied in the optimism with which they have viewed this literature, and the associated effort to translate research data into changed general healthcare practice and health gain.

In these reviews, two conclusions are consistently drawn; brief interventions are found to be effective when comparison is made against non-intervention; and they are also observed to be as effective as more intensive specialist interventions. Beyond these

general conclusions, various statements of qualification need to be made. Whilst broadly similar in how they have approached evaluation of the literature, the various studies have chosen different inclusion criteria (both in terms of what merited inclusion as brief intervention and according to methodological characteristics), and different categories for analysis (whether or not drinkers were help-seeking, the setting, the comparison condition).

The Effective Health Care Bulletin (1993) for example, produces a meta-analysis of six studies comparing brief intervention against assessment-only control groups, along with a qualitative account of fifteen studies comparing against more intensive studies. Bien et al. (1993) categorise 32 studies in healthcare settings (either facilitating referral or targeting drinking), drinkers self-referring to non-treatment interventions, and studies in treatment contexts (comparing brief against more intensive, or adjunctive interventions). Heather (1995b) contrasts findings for specialist agency interventions with community based interventions (including self-referred, primary care, general hospitals, health screening programmes, non-medical settings and self-help manuals). The logic of this comparison, it is argued, that help-seekers should be considered separately from others.

The Effective Health Care Bulletin (1993) and calculations made by Wallace et al. (1988) contribute to a particularly optimistic view of the potential of brief interventions. Heather (1995c; 1996) has, on the other hand, deflated some of this optimism by identifying limitations to the evidence base and obstacles to replication of observed

effects. Given the heterogeneity of the intervention category, it may be expected that there will indeed be variability in effect.

All reviews give weight to a number of key public health studies. These are all well conducted, with large numbers of participants, and identify substantial benefits (in terms of reduced drinking and related risk), attributable to brief interventions (see below). Whilst there are studies which fail to identify such benefits (Heather et al., 1987; Romelsjo et al., 1989; Scott & Anderson, 1990), these are a relatively small minority.

Chick et al. (1985) compared the effect of one session of counselling delivered by a nurse, with routine medical care, among 156 patients on male medical wards. The intervention was of up to 60 minutes duration and patients were followed-up 12 months later. A reduction in drinking, which was biologically validated, was observed to be more pronounced in the intervention group.

Wallace et al. (1988) recruited 909 participants from general practices. The control group received routine care, whilst the intervention included normative feedback, advice, self-help materials and the scheduling of a series of follow-up visits for monitoring and review. Here also, a reduction in drinking (validated by biological measures) was differentially observed between the two groups, after 12 months.

Kristenson et al. (1983) provide an example from the Scandinavian tradition of community health screening programmes. Here 585 participants were identified through

screening and those in the intervention group received physical assessment and discussion of drinking levels with a doctor, with the option of some months of follow-up with doctor and nurse. Those in the control group, who instead received a letter advising that they should reduce drinking, were observed to have more severe levels of a biological marker for alcohol consumption, more time off work and in hospital over the next four years.

Babor & Grant (1992) report on a WHO multi-centre study of brief interventions in primary care and in hospitals, which took place in 10 countries with 1490 participants. This study compared the relative effects of five minutes of advice and an additional fifteen minutes of brief counselling against health assessment only, with a nine-month follow-up. It found that both interventions were effective when compared against the control condition, but that there were no additional benefits to be gained from adding counselling to the advice condition.

It has been observed that participants in these and similar studies may have been unrepresentative of practitioners and patients in their levels of motivation to engage in and benefit from these interventions (Edwards & Rollnick, 1997). As a result of such differences, the knowledge that brief interventions have the capacity to promote substantial changes in drinking behaviours needs to be tempered with caution, and should prompt further scrutiny of the limitations of the existing evidence base (Heather, 1995c). Further specification of the nature of the effects of brief interventions has been a feature of more recent studies, and these are considered in the sections that follow.

The question of the applicability of brief interventions to different populations of at-risk drinkers, and particularly those with more severe problems or high dependence has received much attention (Chick, 1993; Mattick & Jarvis, 1994; Heather, 1989; Heather 1995b; Drummond, 1997). Heather (1989) draws attention to the common interpretation of equivalent effectiveness of brief and more intensive interventions. He identifies a logical error in 'proving the null hypothesis' i.e. it cannot be inferred, on the basis of there being no differences observed, that no differences actually exist.

Drummond (1997) considers the argument that brief interventions are as effective as longer treatments, and that the latter should be abandoned on cost-effectiveness grounds. He interprets the quality and scope of the existing evidence base as insufficient to merit such a conclusion. This review identifies deficiencies including selectivity of review, limitations on what is known about the active ingredients of brief interventions, the extent of their generalisability, and influences that may derive from the attitudes of those delivering interventions.

Mattick & Jarvis (1994) suggest that brief interventions, as they have been studied, have involved contamination with other forms of help. Additionally, they draw attention to examples of advantages associated with intensive intervention and after-care for those who are more clearly or more severely alcohol-dependent. Generally, abstinence (rather than the moderation goal typically associated with brief interventions) is understood to be advisable for such people (Heather, 1995b).

It should be noted that three of the five influential studies discussed above are comprised completely of male samples (Edwards et al., 1977; Kristenson et al., 1983; Chick et al., 1985). In their review, Bien et al (1993a) calculate the female proportion of participants in all studies as being 25%.

In the WHO study (Babor & Grant, 1992), problems were encountered, which led to only half the intended sample of women participants being recruited (Kristenson & Osterling, 1994). At 299, this remains nonetheless the largest sample of women in receipt of brief interventions in the literature. The WHO study found that the differences between intervention and control groups were not significant for women, whilst they were for men. The reduction over time in men's drinking was more marked in the intervention group than in the control group. Among female participants, both groups reduced similarly over time. Kristenson & Osterling (1994) suggest that this may be because women are *"more sensitive to information and discussions about life-style"* (the control condition). The authors of the overall WHO project reject this interpretation, pointing out that few controls were aware of the purpose of the study, and preferring regression to the mean as an explanation (Babor, 1994).

In the Wallace et al. study (1988), data were analysed separately for women and men and it was found that, although there were intervention benefits for both genders, drinking was more reduced in men. Scott & Anderson (1991) report the only trial results exclusively for women in the research literature. They found no effect of brief

intervention that differentiated the 72 women in experimental and control conditions . In their meta-analysis Wilk et al. (1997) find that brief interventions are effective for both genders.

The questions of effectiveness among those who are alcohol-dependent and of the relative effectiveness of brief interventions for men and women begs others; how much does this literature tell us about how brief interventions actually exert influence, as well as for whom?

2.2.3. The Content of Effective Brief Interventions for Alcohol Consumption

The seminal comparison of 'advice' and 'treatment' involved a brief intervention comprising an initial three hours of assessments, followed by a session with husband and wife, psychiatrist, psychologist and social worker (Edwards et al., 1977). In this context, the advice delivered in 'sympathetic and constructive terms' was that the patient was suffering from alcoholism, abstinence was necessary, employment should be continued and the marriage could be made to work. In the twenty-five years since then, the content of advice given in brief interventions has altered fundamentally, as has its mode of delivery.

Miller & Sanchez (1994) suggest that common elements are identifiable in effective brief interventions. They summarise their observations with the acronym FRAMES: Feedback of personal risk or impairment; emphasis on personal Responsibility for change; clear Advice to change; a Menu of alternative change options, therapeutic

Empathy; and enhancement of client Self-efficacy. In their review, Bien et al. (1993a) tested for the presence or absence of each of these factors through examination of research reports or contact with authors. In 32 studies, their findings are reported in table 2.1.

Table 2.1

Item	% Present	Item	% Present
Feedback	81	Menu	59
Responsibility	81	Empathy	63
Advice	100	Self-efficacy	69

The presence of these characteristics appears on this basis to be widespread within alcohol brief interventions. However, the authors themselves also point out that it cannot be inferred from the mere presence of such characteristics, that these are the active ingredients of interventions (Bien et al., 1993a).

Most brief interventions will usually be found to contain advice, and some content referred to earlier as condensed psychological intervention (Heather, 1989). Indeed, advice will frequently contain guidance in self-monitoring or other psychological content. The helpfulness of the distinction between the two is thus limited.

The length of the intervention provides a useful means of additionally distinguishing between various constituents of this 'family' of interventions. The typology presented below emerges from a reading of both the older and more recent literature and all

examples given are from controlled trials.

Simple Advice is delivered in a few minutes. Most typically this follows brief questions as to levels of drinking, symptoms of dependence or other problems and the content of the advice is that consumption should be reduced (or stopped). Examples include; Babor & Grant, 1992; Israel et al., 1996; Cordoba et al., 1998. This has also been described as minimal, as distinct from brief, intervention (Heather, 1995b).

Extended Advice or *Brief Counselling*, may take 15 - 30 minutes and is usually different from the above in that particular methods for change will be discussed. Assessment data is used as indicated. Where the counselling content is behavioural, the method is didactic and the focus is on how to change. Where it is motivational, the method attempts to elicit change articulation (see later discussions of motivational interviewing and brief motivational interviews). Examples include Babor & Grant, 1992; Senft et al., 1995; Cordoba et al., 1998; Handmaker et al., 1999.

Single-session Counselling may take up to one hour and like the above, the content may be either motivational or behavioural in orientation. Additional time allows for mixed methods which embrace both whether and how to change. More extensive recourse to assessment data and feedback of biological data and normative comparisons are common. Examples include Chick et al., 1985;

Chang et al., 1999; Monti et al., 1999; Borsari & Carey, 2000.

Multi-session Interventions may involve 4-6 face-to-face meetings varying in duration from 10-15 minutes to an hour. Ongoing monitoring allows objectives or methods to be modified in light of progress. Examples include; Kristenson et al., 1983; Heather et al. 1987; Wallace et al., 1988; Anderson & Scott, 1992; Miller et al., 1992; Richmond et al., 1995; Israel et al., 1996; Fleming et al., 1997.

All the above are face-to face methods. Self-help versions or other equivalent content can be found to be delivered by telephone, or by postal correspondence. Examples include; Miller & Taylor, 1980; Miller et al., 1981; Heather et al., 1986 (all self-help); Sitharthan et al., 1996; Sobell et al., 1996 (correspondence).

An important point to make about the typology presented above, and about the literature generally, relates to the issue of assessment. Assessment (for both research and intervention purposes) has traditionally been viewed as something apart from the intervention, and its potential impact generally not explored. Miller et al. (1988) sought to make assessment integral to intervention by making feedback of assessment data a central tool for cognitive re-appraisal. In the review by Bien et al. (1993a), it was noted that change following assessment in control groups was common, and that reactivity to assessment was understood as a likely explanation. These authors advocated the use of Solomon 4-group designs to explore this issue.

More recent brief intervention studies have been concerned to address some of the questions raised by the older body of work. For example, Richmond et al. (1995) and Welte et al. (1999) sought to determine the effectiveness of a brief interventions in naturalistic general practice and hospital-based studies respectively. As well as the identification of new target populations (for two examples of pregnant women, see Handmaker et al., 1999; Chang et al., 1999), the precise content of brief interventions has received more detailed attention recently. The era of non-intervention control groups appears to be passing, with one study, for example, defining simple advice as a minimum ethically acceptable condition (Israel et al., 1996). Contrasts between brief interventions (or between brief and minimal interventions) have become more usual.

The primary care study by Israel et al. (1996). and one other (Cordoba et al., 1998), whose design was heavily influenced by the study of Wallace and colleagues a decade earlier, have sought to determine whether intervention effects beyond those secured by simple advice were identifiable. In the case of Israel et al. (1996), problem drinkers identified by screening were randomised to simple advice to reduce drinking or a multi-session intervention comprising 3 hours of cognitive-behavioural counselling delivered by a nurse over the course of one year. Those receiving simple advice reduced their drinking by 46%. Those who received the multi-session intervention reduced their alcohol consumption significantly more (by 70%) as well as reporting significant reductions in problems and the frequency of primary care visits.

Cordoba et al. (1998) compared simple advice with brief counselling (15 minutes)

among hazardous drinkers identified by screening (with those dependent excluded). The results were broadly in line with estimates of effect provided in an earlier review by Richmond & Anderson (1994a).Those receiving simple advice reduced consumption by approximately one third, whilst those receiving brief counselling reduced by in excess of 50%. Significantly greater proportions receiving brief counselling reduced to within 35 and 21 units per week respectively. Booster sessions beyond the initial counselling session further increased these proportions, but not to a level that was statistically significant. The only factor identified which was associated with lack of achievement of consumption below 35 units was higher baseline consumption level.

Observations such as these (with similar findings in relation to smoking cessation), support the conclusion that more sophisticated interventions have been shown to outperform simple advice to reduce drinking (Rollnick et al., 1997b). Brief counselling interventions are understood to have enhanced capacity to persuade or facilitate decisions to make changes to alcohol consumption (Miller, 1995). This understanding is based, in part, upon a view of *"addictive disorders as fundamentally motivational problems"* (Heather, 1992).

2.2.4. Motivational Interviewing: Principles & Practice

Motivational interviewing (MI) was originally pioneered by Bill Miller in the early 1980s (Miller, 1983), and has been developed in collaboration with others, most notably, Stephen Rollnick (Miller & Rollnick, 1991; Rollnick & Miller, 1995). Miller recounts that the approach evolved from an initial interest in behavioural self-control training for less severely problematic drinkers, and subsequently developed through scrutiny of a series of surprising outcomes in a series of intervention studies (Miller, 1996; 1998). These publications illustrate strongly a concern to differentiate an empathic approach based upon modern psychological interpretations of ambivalence (Orford, 1985) from the types of confrontational intervention particularly common in the U.S.

Applications and adaptations to other health behaviours, for which ambivalence with respect to change is understood to be central, have recently been developed (see Rollnick et al., 1999). These have emphasised negotiation in the context of patient-centred healthcare practice. MI has been defined as;

"a directive client-centred counselling style for eliciting behaviour change by helping clients to explore and resolve ambivalence." (Rollnick & Miller, 1995)

These authors go on to summarise the underpinning philosophy or "spirit" of the intervention in the following fashion: Motivation to change is derived from the client's own values and goals. These are made explicit in the process of the client articulating ambivalence about drinking. Resolution of ambivalence in the direction of change

requires the client, not the counsellor, to give voice to reasons for change. A partnership designed to maximise client activity towards this objective makes "expert/recipient" roles inappropriate. The role of the counsellor is thus to focus the discussion in the direction of ambivalence resolution and the quality of this interaction exerts a key influence on motivation to change (Rollnick & Miller, 1995). Motivation itself is seen simply *"as a probability of certain behaviours"* (Miller & Rollnick, 1991), motivation to change thus being the probability that behavioural change will occur.

Miller & Rollnick (1991) distinguish motivational interviewing from three other approaches in the following terms: 1) In comparison to confrontational approaches, labels (alcoholic etc) are not sought and neither a diagnosis nor treatment plan conceived by the therapist presented. Personality is not pathologised and personal choice is emphasised. Resistance is not viewed as a trait but an interactional product, to be met with reflection rather than argument. 2) When compared to a cognitive-behavioural skills-training approach, no assumption of motivation to use skills is made; motivational enhancement itself is the target. Changing poor cognitions, problem-solving and coping strategies are not taught in a prescribed way. Clients instead generate methods on the basis of their own resources, using supported exploration and eliciting. 3) When contrasted with Rogerian or other non-directive approaches, the client does not determine the content and direction of conversation, and advice and feedback are given as requested. Empathy is selectively used in motivational interviewing and discrepancy is targeted for amplification.

The possibility of relatively brief encounters creating conditions in which change may occur ran counter to pre-existing notions of addictive or alcoholic personalities (Miller, 1995), which gave rise to confrontational approaches (Miller & Rollnick, 1991). However, long-standing scientific search for such personality attributes has been disappointing, whilst a range of therapist variables are identifiable as predictive of good outcome. Empathy (Miller & Baca, 1983), the avoidance of, rather than highlighting, denial or resistance (Miller, Benefield & Tonigan, 1993) and other therapist behaviours and attitudes including voice tone and outcome expectations have all been found to influence outcome (Miller, 1985; 1998). Interestingly, MI was identified in Project MATCH as being the intervention in which therapist influence on outcome was strongest (Miller, 1999).

Motivational approaches are argued by proponents to be effective through: 1) The identification of readiness to change and ambivalence towards drinking as key intervention targets. 2) The creation of an environment (through accurate empathy) in which contradictory thoughts and feelings can be explored and resolved (Miller & Rollnick, 1991).

Eight building blocks of motivation have been identified following a review of the literature on motivation (Miller, 1985; Miller, Sovereign & Krege, 1988) and summarised as the "A - H of motivation". Five principles of motivational interviewing have been elaborated to guide the conduct of the interviewer (Miller & Rollnick, 1991; Miller et al., 1992). Two phases of the intervention specify the strategic aims and techniques to be

used at different points in the process (Miller & Rollnick, 1991; Miller et al., 1992). Extended accounts of this material are available in these latter two publications and shall only be briefly summarised here.

The "A - H of motivation" (Miller et al., 1988) describes the giving of Advice, removal of Barriers, provision of Choice, decreasing Desirability of no change, practising Empathy, providing Feedback, clarifying Goals, and active Helping. A combination of these strategies will typically be used to enhance motivation. The close similarity to the FRAMES acronym is noteworthy. The five principles governing progress in MI have been expressed as:

- ◊ Express empathy
- ◊ Develop discrepancy
- ◊ Avoid argumentation
- ◊ Roll with resistance
- ◊ Support self-efficacy

These principles are operationalised in the following ways (Miller & Rollnick, 1991; Miller et al., 1992). Empathy is expressed through reflective listening, where statements rather than questions are used to encapsulate portions of client dialogue, with the purpose of further eliciting conversation in these areas. It is deployed selectively and strategically, encouragement of client articulation of ambivalence and reasons for change being the main functions. Discrepancy is developed to encourage a perception

of there being something needing to be done to get from where they are to where they want to be. This involves a heightening of sensitivity to consequences and clear definition of goals. Particularly in the event of discomfort, it is crucial for the interviewer not to present arguments for change which can be argued over or resisted.

It is the client, and not the therapist, who needs to voice arguments for change. Where resistance is encountered in the forms of arguing, interrupting, denying or ignoring, it signals that tactics have not been successful and a new approach is necessary. Involvement in argument is thus viewed as counter-productive. Rolling with resistance involves a switch of focus, allowing the client to take the conversation elsewhere. The support of self-efficacy entails availing of opportunities to encourage the client's specific beliefs and confidence in the possibility of changing drug use.

The two main phases of intervention have been characterised as "building motivation for change" and "strengthening commitment to change" (Miller & Rollnick, 1991; Miller et al., 1992). A third phase was outlined in the Project MATCH therapy manual (Miller et al., 1992); consisting of "followthrough strategies". These involved "reviewing progress, renewing motivation and redoing commitment". These shall not be further considered here as they are specific to this four session intervention and do not involve any qualitative difference in the tasks associated with the prior two phases. Phases 1 and 2 may be incorporated in any number of sessions, although descriptions typically envisage or imply two sessions. The phases define the tasks of intervention, some traps to avoid and how the required tasks may be accomplished.

To build motivation to change it is suggested that early use of open-ended questions, reflective listening, affirmation and summaries can elicit self-motivational statements (Miller & Rollnick, 1991). These involve the client themselves identifying and voicing reasons for change and this is the core technique used to resolve ambivalence and build motivation. Feedback of pre-intervention assessment results provides an initial opportunity to invite such comments in exploring the impact of these data. Self-motivational statements can be categorised according to four themes; problem recognition, expression of concern (about perceived problems), intentions to change and optimism about change (Miller & Rollnick, 1991). The making of these statements generally serves to underline discrepancy. Asking evocative questions, decisional balance exercises, requests for elaboration, using extremes, looking back and forward, exploring goals and the creative use of paradox all serve as possible techniques for direct eliciting of these types of statements.

Once the decision to change is reached, the focus switches to strengthening commitment to implement the decision (Miller & Rollnick, 1991; Miller et al., 1992). Whilst ambivalence is still likely to be present, the client begins to speak of readiness to change, particular changes and how they may be successfully implemented. Doubt is likely to continue to be present, motivation will fluctuate, and the identification of a clear boundary between phase 1 and 2 may not be possible. This of itself is not problematic as the shift in emphasis required in phase 2 will soon reveal whether this has been premature.

A summary which highlights self-motivational statements and the general conduct of the discussion to this point, sets the scene for a series of key questions which "put the ball in the court of the client " and whose central theme is "what is to be done. The identification of options, client generated and in response to requests for information or advice, allows a plan to emerge from goal clarification. Selections can be discussed as a precursor to the making of commitments. The support of others in intended actions should be included in the plan and immediate steps be identified for implementation (Miller & Rollnick, 1991; Miller et al., 1992).

It has been suggested that this account (Miller & Rollnick, 1991; Miller et al., 1992), has not been "deconstructed" (Draycott & Dabbs, 1998). These authors argue for critical scrutiny of this version of the intervention, seeking to examine theoretically various components, and to suggest amendments. Variations from the basic account of MI as a counselling style are evident when adaptations are made for particular circumstances, most notably when time limited interventions are designed. This is in line with one general principle of brief intervention that content is determined by opportunity as usually defined by time (Mattick et al., 1994). The content of attempts to condense motivational interviewing into brief intervention formats will be explored in depth in the next chapter.

2.2.5. The Efficacy of Motivational Interviewing

In a meta-analysis of alcohol treatment studies, Motivational Enhancement Therapy

(the title given to the four session MI intervention tested in Project MATCH) rated highly in comparison to other interventions, with study quality being considered along with accumulated efficacy data (Miller et al., 1995). Others have commented that despite widespread popularity within the addictions field, the evidence base is relatively small (Saunders et al., 1995). A number of recent publications containing reviews by Miller (1996, 1998, 1999, 2000a), Rollnick & Miller (1995), and other colleagues at the University of New Mexico or collaborators (Noonan & Moyers, 1997; Lawendowski. 1998; Emmons & Rollnick, 2001), are testament to the fact that, although the literature may not be large, it has been closely scrutinised. A website, newsletter and international trainers network have also been developed in recent years.

In many of these papers, a brief account of the intervention is presented, followed by a discussion of efficacy data and consideration of future applications. Discussions of efficacy have been structured according to a number of important issues, which are summarised in the paragraphs that follow. Prior to the publication of Project MATCH findings, Noonan & Moyers (1997) identified a total of eleven controlled trials of motivational interviewing. Other reviews do not include all these studies, some not being considered to be tests of motivational interviewing. Lawendowski (1998) additionally discusses a later published study by Allsop et al., (1997), supposedly involving a group version of the technique, but questions whether the spirit and techniques developed by Miller & Rollnick are present.

The account of the literature in these papers usually makes the following distinctions.

There are two efficacy studies in which MI was the sole intervention, targeting self-referred drinkers from the community against waiting list controls (Miller et al., 1988; 1993). There are two other alcohol (and one opiate) efficacy studies, where MI is implemented as a preparatory adjunct to either in-patient or out patient treatment (Brown & Miller, 1993; Bien et al., 1993b; Saunders et al., 1995).

Heather et al. (1996) compared MI with skills-based counselling and with usual care in an in-patient setting among heavy drinkers identified by screening. They identified consumption reduction benefits attributable to intervention compared to non-intervention, but no differences between the two interventions overall. MI was more effective for less motivated drinkers when compared to skills based counselling, but the reverse was not the case i.e. benefits attributable to skills training for more motivated.

Senft et al. (1995) in an effectiveness study, like all the previously cited studies, identified a range of benefits attributable to MI, here compared to usual care. This study opportunistically recruited in primary care, and the intervention was in the form of a 15 minute interview. Handmaker et al. (1999) compared MI against non-intervention control and found no main effects but reduced drinking among heavier drinkers in a sample of pregnant women.

Two other studies are noteworthy in that they failed to support the efficacy of motivational interviewing. Richmond et al. (1995) compared a motivational intervention with advice, and a non-intervention control in a similar setting to Senft et al. (1995).

Whilst both were naturalistic studies, the intervention differed substantially. In this first case, a multi-session motivational intervention was delivered over a period of months and no differences in drinking were observed between the three groups. Noonan & Moyers (1997) draw attention to a loss of 49% before motivational interviewing initiation in the MI intervention group, and to analyses excluding these early drop-outs which do demonstrate drinking differentials between groups favouring motivational interviewing.

The second study which failed to find efficacy for MI was by Kuchipudi et al. (1990) who offered a Drinkers Check-Up intervention on medical wards among those with alcohol-indicated illnesses. Neither in treatment initiation nor in drinking was benefit evidenced when compared with non-intervention control. This study was criticised by Noonan & Myers (1997) as being over-reliant on medical authority, involving mandated elements, and thus being excessively directive. Miller & Rollnick have not included this study in their various discussions of trials of motivational interviewing, describing it to "bear little resemblance to our understanding of its essence" (Rollnick & Miller, 1995).

In the influential Project MATCH, it was found that the four-session Motivational Enhancement Therapy was as effective as two twelve-sessions interventions (cognitive behavioural therapy and AA facilitation) with which it was compared. Additionally, it worked differentially well with those who were more angry, as was predicted (Project MATCH 1997a; 1997b; 1998). Of the many questions raised by the findings of that study, particular note is made here of the sensitivity of MI to therapist effects. Despite intensive training, supervision, manualised procedures and video recording, therapist

influence on outcomes proved extremely and differentially (compared to other interventions) robust (Miller, 1999).

Recent reflective work by Miller (1996, 1998, 1999; 2000a) has been concerned to consider exactly how and why it is that this style of counselling appears to work. Further empirical study should be expected to deliver new insights into the nature of the production of effects among existing populations, settings and personnel, as well as yet unexplored others.

2.2.6. Other Developments in Alcohol Interventions

Linda and Mark Sobell and Martha Sanchez-Craig have worked at the Addiction Research Foundation over many years with various colleagues (and collaborated with others elsewhere). A recent account given by Sanchez-Craig (1999) describes a range of interventions with problem drinkers (counselling, advice, education and self-help) as having common elements including an initial motivational assessment and ongoing monitoring. Elsewhere, an existential philosophical underpinning to this approach is described, emphasising the importance of client choice of intervention (of both goal and method) congruent with sense of self and of problem (Sanchez-Craig, 1990). Within such an orientation to intervention, 'didactic' elements are included as recommendations of potential benefit, based on what is known about problems and their resolution.

In light of the earlier discussion on gender and brief interventions, it is surprising that

this research group have demonstrated on various occasions better outcomes for women compared to men (Sanchez-Craig et al., 1989; Sanchez-Craig et al., 1991; Sanchez-Craig et al., 1996). This may be attributable to the distinct intervention orientation described above or it may relate to specific methods employed, or both.

Spivak et al. (1994) demonstrate that brief self-help materials containing specific advice on how to reduce drinking were associated with better outcomes after 12 months when compared with information on alcohol (non-specific advice). In a later study, Davila et al. (2000) identified the regular use of strategies from a menu of options as being associated with drinking outcomes after 3 and 12 months. The strategies identified were setting goals for drinking, developing free time activities, coping with problems without drinking and keeping track of drinking.

Interest in changing patterns of drinking in the general population led Sobell et al. (1996a) to examine data from two general population surveys in order to assess the extent of resolution of alcohol problems without formal treatment or other help. They found that, in both surveys, more than three-quarters of those with such problems resolved them without recourse to any help. The literature on "natural recoveries" identifies these to be particularly prevalent among those with mild or moderate dependence (Sobell et al., 1996b). The cognitive appraisal/evaluation process which both motivational interviewing and the stages of change model posit is identified in studies of users of various drugs (Sobell et al., 1996b).

Employing insights from clinical experience with problem drinkers, these authors have

developed a Guided Self-Change intervention model for use with those responding to advertisements in the community. The logic for so doing is summarised as follows;

"Because the vast majority of individuals with alcohol problems are unlikely to enter traditional alcohol treatment programs, one alternative is to "take the treatment" to them. There is a serious need for developing and evaluating alternative minimally intrusive interventions that appeal to problem drinkers. Efficient methods of fostering self-change in community settings would allow for widespread impact on alcohol problems and at a much lower cost than outpatient services." (Sobell et al., 1996b)

This public health orientation has been conceptualised within a stepped care approach to alcohol problems (Sobell & Sobell, 2000). This involves the least restrictive intervention being offered to individuals which is judged to be likely to be successful. Where unsuccessful, increasingly more intensive interventions become appropriate.

Alan Marlatt and colleagues have developed brief motivational interventions with young people over a number of years (Baer et al., 1992; Marlatt et al., 1998; Roberts et al., 2000). In the first of these studies, student volunteers with a mean age of 21 years, were randomised to receive 6 session discussion group, single session feedback and advice in the style of motivational interviewing, or self-help materials (Baer et al., 1992). Problems with compliance led to the abandonment of the self-help condition. Reduced drinking over the 6 week course of the discussion group was observed in the other two conditions and this was maintained for 2 years. Reduced drinking was similar in both

groups, at approximately 40%.

A later trial compared the individualised brief motivational intervention with a non-intervention control group (Marlatt et al., 1998). Young people were screened in the final year of high school and high-risk drinkers were randomised to either condition, with a normative comparison sample also recruited. The intervention group received feedback of data collected in an assessment session, during the first year of college. One year later, the intervention group received mailed feedback of data collected during intervening follow-up assessments, and those at particularly high risk were invited to a second intervention session (mostly conducted by telephone). As with the previous study, reductions in drinking were secured soon after intervention and maintained for two years.

An effect on problems was also observed, to an extent greater than the effect on consumption. This became more apparent over time and the authors suggested that two processes were relevant to this (Marlatt et al., 1998). Firstly, maturational trends observed in the normative comparison sample appeared to have been accelerated. Secondly, intervention recipients appeared to have been taught how to avoid and minimise the occurrence of problems. These data were also analysed at the individual level and these effects were confirmed (Roberts et al., 2000). It was additionally observed that there were a large proportions of young people in both groups whose drinking was unaltered.

Borsari & Carey (2000) adapted the intervention used in the study by Marlatt et al. (1998) to encompass targeted cognitive change including of expectancies, misconceptions and perceptions. This intervention was compared to a non-intervention control among college students who were binge drinkers. After 6 weeks reductions in consumption were apparent, without any effect on problems. The authors suggest that such an effect may be observed at a later point.

Monti et al. (1999) provide another example of an evaluation of the application of a brief motivational intervention to young people. Participants aged 18 to 19 were recruited in a hospital emergency room during alcohol-related attendance and were randomised to receive brief motivational interview or standard care. The intervention contained five distinct sections (see chapter 3) and was explicitly based on the work of Miller & Rollnick (1991), with an emphasis on harm reduction. After 6 months, an effect was observed on drinking and driving and alcohol-related injuries and problems, but not on consumption.

2.3 Smoking Cessation Interventions

2.3.1. The Context of the Development of Brief Interventions for Smoking Cessation

Heather (1989) observed that, because smoking had not been considered a disease in the way that alcohol had been, and was hence without a tradition of intensive intervention, it was a less controversial area in which brief interventions might be applied. For dependent users of both drugs, cessation or abstinence is believed to be the appropriate objective of interventions (Heather, 1989; 1995b). Given the prevalence of dependence among cigarette smokers, and the nature of the harms associated, cessation-targeted interventions have been the norm, and it is only recently that reduced smoking has been considered as an intervention aim (Hughes, 2000). The availability of nicotine replacement therapies, which bears some similarities to treatments for some other drugs (e.g. methadone treatments), is also a feature of smoking cessation interventions.

The seminal brief intervention study in this area was a test of the effect of GP advice to smokers by Russell et al. (1979). In many ways this is a direct equivalent of the alcohol study by Edwards et al. (1977), establishing the efficacy of brief intervention and setting in train research activity still informed by these data two decades later. It is interesting to note that both studies took place around the same time and within the same institution.

Participants were recruited from smokers attending five general practices in London over a period of four weeks. They were randomly allocated by day of attendance to four

groups; non-assessed controls, controls assessed by questionnaire, those receiving advice to stop and those additionally receiving a leaflet. After one month, the advice-only group were not found to be different to either of the control groups and no questionnaire/assessment effect was observed. The advice & leaflet group were observed to have made more attempts to stop smoking at this point (Russell et al., 1979).

Most of those not smoking after one year were found to have stopped later than the one month follow-up. Both advice-only and leaflet enhanced advice groups made significantly more stop attempts up to four months after intervention, and those most likely to succeed in stopping were light smokers. Despite their being behavioural advice in the leaflet on how to stop, no effect was observed in relation to this. The authors explained their findings thus;

"The effect of the advice was quite specific. Motivation and intention to stop were increased, as was the proportion of patients who tried to stop. Confidence in the ability to give up smoking was not increased, however, and neither was the success rate in those who tried." (Russell et al., 1979)

As with alcohol, much brief intervention study has taken place in general practice (Richmond & Anderson, 1994a; 1994b; 1994c). Richmond & Anderson (1994a) report that brief advice given by GPs is associated with quit rates of 5-10% after one year, whilst multi-session interventions increase quit rates to between 20-36%.

Prevalence trends in western societies have followed generally similar patterns, with overall levels of cigarette smoking having fallen, with this decline largely attributable to rising levels of cessation rather than the prevention of initiation (Lichtenstein & Glasgow, 1992; Shiffman, 1993).

"Over the last 3 decades, the focus of smoking control has shifted from the clinic to the community...Particularly with the recognition that only a minority of smokers will accept or attend formal clinics, the emphasis has shifted to promoting smoking cessation in new populations through a variety of new and broader channels. Self-help and minimal interventions have become major modes of "treatment". New channels of intervention have been designed to reach a broader segment of the smoking population through health care settings, workplaces and entire communities." (Shiffman, 1993)

It would seem from the foregoing that brief interventions have enjoyed a history of application in relation to cigarette smoking which is similar to that for alcohol. However, evaluation of the specific contribution of brief interventions to this major public health success story is not known to have been undertaken, in Britain or elsewhere. Paradoxically, the category of 'brief' intervention is much less prominent in this literature.

2.3.2. The Content and Effectiveness of Brief Interventions for Smoking Cessation

Reviews of and commentaries on interventions (Lichtenstein & Glasgow, 1992; Shiffman, 1993; Hajek, 1996) centrally employ the distinction between behavioural and pharmacological treatments, with brief interventions often being given little or no mention. Where specifically considered, they are at times located as a sub-category of behavioural or psychological intervention (Wetter et al., 1998) and at other times as a distinct category of intervention (Baillie et al., 1994).

Hajek (1996) observes that almost all behavioural interventions were developed in the 1960s or 1970s, whereas pharmacological interventions have a 'vitality' associated with more recent innovation and testing. Shiffman (1993) likewise identifies only one new behavioural method (cue exposure) to have been tested after this point.

Whilst an additive effect of enhancing behavioural methods with pharmacological adjuncts has been identified, it is not known whether the reverse is true (Hajek, 1996). Hajek suggests further research and innovation in behavioural methods are now required, bearing in mind the improvements that have occurred in research methodology to such an extent that it is debatable whether existing behavioural methods have been adequately tested by contemporary standards.

One interpretation of the smoking cessation literature is that one behavioural method works pretty much as well as another (Lichtenstein & Glasgow, 1992), a view that reflects a more general finding of equivalence in psychological interventions. However, this view was not supported by a meta-analysis carried out as part of the American

federally instituted Agency for Health Care Policy and Research project to develop clinical practice guidelines in this area (Wetter et al., 1998). This detailed study of a wide range of intervention characteristics identified variations in outcomes along the following dimensions; provider (defined by professional and organisational contexts); format (self-help of various types or counselling); length of face-to-face contact, types of content; duration of intervention and number of sessions. The most effective interventions, in terms of odds ratios for cessation, were identified as having 2-7 sessions of more than eight weeks duration, delivered by multiple providers. Brief interventions, defined as less than or equal to 10 minutes, were found to be superior to no or minimal intervention (defined as less than or equal to three minutes) and inferior to longer interventions (Wetter et al., 1998). Limitations of research on ethnic minorities, women and young people were recognised. Baillie et al. (1994) also analysed brief interventions and arrived at similar conclusions in their meta-analysis.

In Australian guidelines for smoking cessation interventions informed by the latter meta-analysis, Mattick et al. (1994) identified opportunity as the main arbiter of intervention content. This may usually be circumscribed by time, whether it be the number of minutes available for a single session or the number of times a person will engage in repeat contacts. These reviewers, like their American equivalents, recommended a preliminary assessment of willingness to make an attempt to stop smoking, followed by content indicated by time available. Four time bands were identified; when there is no time available; when there is ten minutes or less; up to 1 hour; and more than 1 hour (multi-session) programmes. The recommended content for the first band is directed

towards agencies and involves mainly the display of information and provision of self-help materials. The other three time bands have a common core intervention content. The shortest time-band involves a concentrated attempt to deliver the intervention as follows; assessment; personalise risk; advice to quit; provide self-help materials; identify social support; arrange follow-up. The other time bands provide opportunities for detailed attention to be given to these issues and for monitoring and review of difficulties and progress. Motivational interviewing is recommended for those who have not decided to quit, as a means of ambivalence resolution. Attention to high-risk situations among those making quit attempts is recommended for relapse prevention purposes (Mattick et al., 1994). Nicotine replacement therapies, discussion of weight gain, stress management and organisation of social support may be permitted by multi-session interventions.

Study of the enhancement of the effects of simple advice and brief counselling has also taken a pharmacological direction. General practice studies have identified nicotine gum and patches as adjuncts which improve upon quit rates (Russell et al., 1983; Russell et al., 1993).

Support of primary care activity by a specialist clinic has also been identified as improving outcomes (Russell et al., 1987). The nature of the effects have also been further studied. For example, the impact of longer term relapse on intervention effect evaluation has taken place as has assessment of the ability to impact upon local prevalence rates (Stapleton et al., 1998; Russell et al., 1988).

Support or assistance from nurses following initial GP intervention has been studied (for example, Lancaster et al., 1999) as have interventions delivered by nurses in general practice (Sanders et al., 1993). Efficacy established in clinical trials has been proven to be capable of translation into effectiveness in naturalistic settings (Richmond & Anderson, 1994c).

Beyond efficacy and effectiveness studies, Richmond (1996) also considers studies of two further types. The first concerns the study of doctors utilisation of interventions following training. The second, which is then at the feasibility stage, concerns the process of dissemination itself and how this differs cross-nationally and may be influenced in light of diffusion theory.

2.3.3. From Stages of Change to Community Interventions

There is a smoking cessation equivalent to the place of motivational interviewing in the alcohol literature; the stages of change model. Also emerging in the early to mid 1980s, Miller (1999) describes how there was a "natural fit" between the two.

Unlike motivational interviewing, the stages of change model is an empirically based account of how people change a wide range of problem behaviours, with or without help or treatment. The principal authors of the model have been Prochaska and DiClemente, with notable collaborators and colleagues including Velicer, Rossi, McConnaughy, and Norcross (Prochaska & DiClemente 1983; 1984; McConnaughy et al., 1983;

McConnaughy et al., 1989; DiClemente et al., 1991; Prochaska et al., 1992). The model itself has been amended in light of empirical and theoretical innovations. At the core of this account is a series of stages people pass through in the course of changing problem behaviours. The stages themselves have been revised over time, and for almost 10 years there have been five stages recognised (italicised below).

Pre-contemplation is a state of non-readiness to consider the costs and benefits of change and may be succeeded by a stage of such *Contemplation*. The resolution of ambivalence about the behaviour and change is marked by progression to a new stage of *Determination* when a time specified decision to take action is made. These cognitive and preparatory stages precede an *Action* stage where changes are implemented and a *Maintenance* stage where effort is directed towards preventing relapse.

Ten processes of change have been identified which are held to determine progression through the stages described (Prochaska, DiClemente & Norcross, 1992). These processes have been identified as differentially associated with stage progressions and so represent important targets for intervention. According to the model, change may also be conceptualised as a cyclical process where either failure or successful maintenance of change may be followed by further change attempts. This perspective provides a framework within which relapse may be interpreted and identifies stage-related and process-specified objectives for interventions. As with motivational interviewing, it is understood that only some people will be ready for change, and the needs of those who are not are greatly different from those who are.

Like motivational interviewing, the stage of change model has been very popular and there is little in the research literature which is critical of it (Davidson, 1992). Both the main components to the model, stages and processes, have been subjected to critical scrutiny by Sutton (1996), who suggests that the categorical rather than continuous nature of change implied by discrete stages is at odds with other decision making models in similar areas:

"In these 'continuum' models, the strength of intention to quit is assumed to fluctuate over time within individuals but there is no necessary assumption that the change is monotonic or that it involves crossing a sequence of thresholds. Thus the stages of change model can be regarded as imposing an artificial categorization on what may actually be an underlying continuous process." (Sutton, 1996)

Secondly, Sutton (1996) argues that the available data depict the processes commonly observed in changers, but they do not discriminate between those who do and do not change from a particular stage. The explanatory power of process activity, and by extension the potential value of the model for intervention, is thus limited.

A later paper which extends these observations has been published by Weinstein, Rothman & Sutton (1998). These writers use four research designs to organise the evaluation of the existing literature, and identify a series of conceptual and empirical issues for further exploration. A more recent paper by Sutton (2001) draws attention to

weaknesses in measurement and interpretation of data, and concludes that the evidence base for the stage of change model is "meagre and inconsistent" and that new models of change are required.

The stages of change model has proven to be influential in the development of public health responses to tobacco use, particularly in the U.S. (Prochaska, 1996). In this context, as well as being concerned with efficacy and effectiveness as is the case with clinical interventions, a population perspective is necessary. According to Prochaska (1996);

"Clinical interventions for the addictions typically have the highest efficacy but the lowest reach. Public health interventions have the highest reach but the lowest efficacy. If we are to have much greater impacts upon entire populations with addictions, we must find a way to integrate the best that clinical approaches have to offer with the best of the public health perspective." (Prochaska, 1996)

If individuals and populations pass through stages on their way to behavioural change, the promotion of stage change short of actual behavioural change becomes a legitimate and desirable intervention objective in its own right. If the target population or individual currently resides in a stage of pre-contemplation, intervention which sustains a move to contemplation or preparation, but which does not reach action, may be considered to be effective in these terms. A "delayed action effect" i.e. a later move to action may occur with or without further intervention (Prochaska, 1996). This author goes onto to expound

the challenge faced as requiring a new era of intervention development, involving the following changes;

"1. from an action paradigm to a stage paradigm;

2. from reactive to proactive recruitment;

3. from expecting participants to match the needs of our programs to having our programs match their needs;

4. and from clinic-based to community-based behavioral health programs that still apply the field's most powerful individualized and interactive intervention strategies"

Secular trends being favourable to smoking cessation provided an impetus to test whether the resources of the community as a whole could be harnessed to promote cessation (COMMIT Research Group 1995a; 1995b). In this community intervention trial, eleven matched pairs of communities were randomly allocated to intervention or non-intervention control. No differences were observed on the primary outcome measure chosen, quit rates among heavy smokers. However, light to moderate smokers in intervention communities benefited, with the differential in quit rates judged to be of public health significance. No effects on overall smoking prevalence were detected between conditions.

In the COMMIT trial, four primary channels of intervention were identified (COMMIT Research Group 1995a); public education; health care providers; work-sites; and cessation resources. In the first of these, key events were organised to direct attention

within communities towards smoking cessation and to provide a focus for cessation attempts. Within health care providers, efforts were made to shape local organisational policies, as well as training staff in the delivery of brief interventions. At work sites, in addition to special events and policy development, self-help materials were distributed and recruitment to smokers mailing lists took place. These mailing lists, formed the basis of targeting heavy smokers with cessation resources including guides and newsletters.

Within this community-wide intervention, there were thus a series of components consistent with the perspective of brief intervention. More recently, a Dutch national mass media-led campaign (Mudde & DeVries, 1999) involved various types of television programme and other mass-media elements, activities of local and regional organisations, a national telephone quit line, self-help manuals and support for GPs in the delivery of brief interventions.

2.3.4. Recent Developments in Smoking Cessation Brief Interventions

Regardless of views on the stages of change model, public health inspired intervention with smokers in the community, has seen much innovation in recent years. As well as the exploration of new media of intervention (see below), attention to the content of intervention has included, for example, a trial of a "buddy" system (West et al., 1998) and review of the role of exercise in smoking cessation (Ussher et al., 2000).

In the COMMIT study, considerable reductions in smoking were observed, with 40%

reducing by more than 5% at two year follow-up (Hughes et al., 1999). That reduction did not appear to undermine cessation, has created the possibility of reduction oriented interventions or components of intervention complementing cessation initiatives (Hughes et al., 1999; Hughes, 2000).

Exploring the potential of new intervention media has been a feature of recent smoking cessation research. In part this reflects the public health orientation outlined earlier and the public health policy priorities attached to reduced ill-health by influencing the smoking population as a whole (Smoking Kills, 1998). The dissemination of information and self help materials and the availability of brief telephone support contacts have recently been studied, as have attempts to use computerised media.

Brandon et al. (2000) compared access to a telephone helpline with mailed relapse prevention booklets over one year, among those who had given up smoking and responded to advertisements. Among those who had ceased smoking within three months of study entry, relapse was found to be much higher (35% compared to 12%) in the telephone helpline access condition.

Balanda et al. (1999) found that those using telephone helpline services tended to be heavier smokers and that those who began to use self-help materials responded well to them, though the majority chose not to begin to use mailed materials. Curry et al. (1995) found that the combination of self-help materials and telephone counselling was particularly effective among those who were precontemplative at baseline. Zhu et al.

(1996) observed a dose-response relationship in respect of the number of telephone counselling sessions that were added to a self-help quit kit.

Stage-matching or otherwise tailoring information to individuals more or less ready to change their smoking has been investigated in a number of studies by Dijkstra and colleagues (1998a; 1998b; 1998c; 1998d). In an assessment of cognitive change following receipt of information on expected outcomes of quitting and on how to quit, it was found possible to secure targeted change in the former but not the latter (Dijkstra et al., 1998a). In terms of stage transition outcomes, the content of information did not appear to influence precontemplators (Dijkstra et al., 1998b). Those in contemplation appeared to benefit from having both types of information, whilst those in preparation benefited from self-efficacy enhancing information.

Tailoring information to the needs of individuals involves assessment of stage of change or other aspects of personal circumstances, and the provision of feedback, which may be done by computer programme (Dijkstra et al., 1998c; 1998d). Interactivity refers to clinician or computer generated data being used to determine the subsequent course of ongoing intervention (Pallonen et al., 1998; Velicer et al., 1999).

Velicer et al. (1999) test a computerised interactive intervention (plus self-help manuals) against a non-interactive (stage-matched self-help manuals only) in a pro-actively recruited population-based study. They observe the superiority of the interactive intervention based on feedback but somewhat surprisingly do not find any dose

response relationship (contrary to a long tradition of findings in smoking cessation research regarding intensity of intervention, see Baillie et al. [1994] and Wetters et al. [1998]) in either of the two conditions.

In a comparison of motivational consulting against advice in the general practice (a variant on a tailored and interactive against non-tailored non-interactive contrast), the former is found to be superior by Butler et al. (1999), in line with findings from the alcohol field (see earlier in this chapter). This effect was found to be most pronounced among those who were not ready to change/precontemplators both in terms of quit attempts made and in reduced smoking.

Lawendowski (1998) discusses the application of motivational interviewing to young people who are cigarette smokers. Various characteristics of young people are identified which are suggested to have the potential to make young people responsive to intervention of this type. The application of motivational interviewing perspectives to smoking (and other behaviours) is further explored in the next chapter.

Technologically novel, computer-based, interactive public health applications may be anticipated as use of the internet and other information technology become more widespread. To take one example, intervention by e-mail need not involve any dilution of self-help or correspondence content previously delivered by post, and by its nature may enhance the potential for interactivity. Similarly, it will also be interesting to compare such contacts with telephone counselling/support interventions.

The greater use of internet and other computer technology by young people makes these increasingly likely media for interventions targeting them. The first attempts at computerised interventions for young people in respect of cigarette smoking have not produced positive results (Pallonen et al., 1998; Aveyard et al., 1999). Both these studies evaluated applications of the interactive stage of change based computer programme, known as the "expert system".

It is not known whether failure to observe effects in these studies is attributable to aspects of technology application or to the target population itself and its receptivity to intervention. There is not a prior tradition of non-computerised smoking cessation research which may assist in this regard. On reviewing the findings of the study by Aveyard et al., Reid (1999) questioned the applicability of the stages of change model to young people in light of the volatility of early teenage smoking patterns.

2.4. Other Drug Use Interventions

2.4.1. Drug Treatment Interventions

Treatment interventions for adult users of other drugs have been developed for those who encounter problems with drug use. As with smoking cessation, it is generally observed for interventions among adult drug users that greater treatment intensity or retention in treatment is associated with improved outcome (Ward et al., 1992; Mattick & Jarvis, 1994; Farrell et al., 1994; Drummond, 1997).

In the U.K. and elsewhere, the use of heroin and other opiate drugs has been particularly prominent among those entering treatment. In the National Treatment Outcome Research Study (NTORS), long term opiate dependence was the most common type of drug problem (Gossop et al., 1998). Heroin use in the 90 days before treatment entry was prevalent in over 80% of cases, illicit methadone use in approximately 50%, mean duration of heroin use was 9 years and almost two-thirds were injecting drug users. Methadone maintenance or reduction, accompanied by psychosocial intervention are the predominant treatment modalities. There has been little attention given to the application and study of brief interventions in treatment and related contexts both in this country and elsewhere (Strang, 1998).

The small number of brief intervention studies that have been undertaken as adjuncts to treatment will be reviewed in a later section. There is one account given of an attempt to locate motivational intervention at the heart of treatment for heroin users, in the form of "motivational milieu therapy" (VanBilsen & VanEmst, 1986). This describes how a

treatment setting may be organised in accordance with the principles of motivational interviewing. Two case studies are described in this paper, and outcome data is not known to have been published elsewhere. It is surprising in light of the influence of motivational interviewing on alcohol treatment that this area of enquiry has not developed further.

Attention has recently been given to changing patterns of drug use other than primary treatment targets. Harris et al. (2000) observe much volatility in cigarette smoking among an in-patient drug and alcohol treatment sample. Heavy smokers appeared in this study to reduce their smoking during detoxification treatment , whilst lighter smokers increased numbers of cigarettes smoked. The clinical implications of those entering alcohol treatment who wish to stop smoking have been explored by Ellingstad et al. (1999). Both studies report high rates interested in or willing to consider stopping or reducing cigarette smoking and to receive help in so doing.

Smith et al. (1998) investigate whether drug-specific components may be incorporated into treatment services. They report on outcomes for both stimulant and alcohol dependent men receiving enhanced stimulant-focused groupwork as compared to standard treatment. They observed abstinence benefits among both alcohol and stimulant dependent clients receiving the enhanced programme and conclude this effect is not drug-specific.

The distinct needs of young people, particularly teenagers who encounter drug

problems, have recently been recognised in the U.K. through the emergence of separate provision (Christian & Gilvarry, 1999; Crome, 1999). Significant co-morbidity among the young in treatment has been observed and provision embraces both psychological and pharmacological interventions. The adult treatment intensity finding is also replicated in the adolescent treatment literature (Winters et al., 2000), but it is important to note that the intensity evidence derives mainly from uncontrolled studies.

The patterns of drug use most common among young people in the general population in Britain have not been associated with significant contemporaneously occurring-harms nor with treatment needs (see chapter 1). A public health conceptualisation of needs, analogous to the approach taken to non-treatment populations of injecting drug users and other populations at high-risk of HIV transmission has been identified as required for the development of intervention. Beyond HIV risk reduction interventions, there are some other studies of particular interest. Unfortunately, the literature in this area is at an early stage of development, and there are relatively few brief or other intervention studies which may be helpful.

2.4.2. Brief Interventions with Opiate, Crack Cocaine and Injecting Drug Users to Minimize HIV Risk

The largest research programme undertaken in this area is the ongoing American National Institute on Drug Abuse Co-operative Agreement for AIDS Community-Based Outreach / Intervention Research (Rhodes et al., 1998). This was initiated in 1990 in 23 sites across the U.S. (and in Puerto Rico and Brazil) targeting non-treatment injecting

drug users and heroin and crack cocaine smokers(Beardsley et al., 1996). All participants were randomised individually or in communities to receive either a standard (two session) intervention or an enhanced intervention, which varied in length and content between sites.

Following recruitment by indigenous outreach workers, the standard intervention consists of a personalised risk assessment, risk reduction information and materials (bleach, condoms etc), and HIV testing with pre and post-test counselling (Cottler et al., 1998). The enhanced interventions have included; various individualised cognitive exercises; group work; the use of video materials; emphasis on referral and facilitation of treatment entry; role play and other skills training; social support; self-help facilitation; culturally specific material; and peer delivery. Outcome data have been published for injecting and non-injecting drug users across 5 sites (Cottler et al., 1998; Booth et al., 1998), as well as for individual sites (Beardsley et al., 1996; He et al., 1996; Kotranski et al., 1998).

Substantial improvements are reported in both intervention arms in most areas of risk, with drug use more consistently influenced than sexual behaviour (Cottler et al., 1998; Booth et al., 1998). Some differences between the standard and enhanced interventions are found, for example in relation to frequency of crack cocaine use, but on most outcome measures, and whichever enhanced intervention is employed, no difference with the standard intervention is observed (He et al., 1996; Kotranski et al., 1998). Because they have proven more resistant to change, Kotranski et al. (1998)

recommend tailoring interventions intended to change sexual behaviours.

The reach of these intervention programmes has also been studied (Cunningham et al., 1996; Cunningham-Williams et al., 1999) and white people, women, and those who have never been in treatment nor been HIV-tested, have been found to be under-represented.

The outcomes observed in this programme are similar to, or replicate, earlier findings from HIV risk reduction studies. For example, Deren et al. (1995) observe significant reductions in injecting risk behaviours after 6 months among a large sample of drug users. They observe no differences in outcomes between single-session educational group intervention and an enhanced (3 sessions) cognitive-behavioural intervention which taught prevention skills.

An innovative intervention study undertaken by DesJarlais and colleagues (DesJarlais et al., 1992) had a distinct and specific prevention objective; reduction of transition to regular injecting drug use among intranasal heroin users. This is a good example of targeted 'early' intervention, in pursuit of under-explored prevention possibilities for heroin use, informed by harm minimization considerations (Strang, 1994). A limited experimental effect was observed for the four-session social learning-based prevention group in comparison with an educational control group.

Hunt et al. (1998) have developed a brief intervention to reduce initiation into injecting

by targeting current injecting drug users. The intervention aims to raise awareness of behaviours, which in the presence of non-injectors, may unwittingly serve to encourage interest in injecting. Data collected in this uncontrolled study support the feasibility of incorporation of the intervention into routine work with those in contact with services.

2.4.3. The Incorporation of Motivational Elements in Brief Interventions for Injecting Drug Users to Minimize HIV & Other Risk

O'Neill et al. (1996) provide an example of an evaluation of a cognitive behavioural intervention in a treatment setting. Participants were pregnant injecting drug users on methadone maintenance, who received usual treatment or usual treatment plus six relapse prevention sessions. The first of these was described as a motivational interview which had the objective of "raising motivation to reduce HIV risk-taking". The intervention was found to have no effect on sexual risk behaviour nor on levels of drug use but did successfully influence injecting-specific risk.

Also in an Australian treatment setting, Saunders et al. (1995) compared the effect of a single session motivational intervention against an educational control group. The study population were new entrants to methadone treatment, with the intervention intended as an adjunct to core treatment. Six months later, a range of positive outcomes included greater commitment to abstinence, fewer opiate-related problems, greater treatment compliance and more time to relapse were observed to be greater in the intervention group. The intervention itself is described in the next chapter.

Amanda Baker and colleagues (Baker & Dixon, 1991; Baker et al., 1993; Baker et al., 1994; Baker, 1995; Baker et al., 2001) have developed motivational interviewing, and other interventions with significant motivational components, for application with injecting drug users. The motivational interviewing content of these interventions will be examined in chapter 3.

Baker et al. (1993; Baker, 1995) contrasted a six-session individualised relapse prevention intervention, with a single-session motivational interview (with self-help materials) and a no additional-intervention control group. The study population were 95 injecting drug users engaged in methadone maintenance treatment and the objective of the interventions being studied was to reduce HIV risk. No differences in outcome were observed after 6 months between the three groups, with only one exception. Those receiving the relapse prevention programme had lower risk-taking scores during the highest risk-taking months. The single session motivational intervention was not found in any way to be superior to non-intervention, though statistical power to detect differences was very limited.

Baker at al. (1994; Baker 1995) compared a single session motivational interview to reduce HIV risk behaviour with a non-intervention control among a sample of 200 non-treatment injecting drug users. At three and six month follow-ups (follow-up rate of 44% at 6 months), similarly significant reductions in injecting risk-taking were observed in both groups (and no change in either group in sexual risk-taking). It was concluded that it was likely that the individualised risk assessment conducted for research purposes

was not sufficiently distinct from the intervention itself or that the intervention provided no additional benefit beyond that conferred by such assessment.

Baker et al. (2001) conducted a small randomised trial (n=64) which compared a motivational and behavioural intervention with a self-help booklet among regular amphetamine users (mean age 31 years). The intervention comprised a single-session motivational interview followed either by 1 or 3 further sessions of discussion and/or training in relapse prevention skills. The specific intervention objective was to reduce amphetamine use. A significant difference was obtained on one measure; cessation rates.

2.4.4. Brief Interventions with Cannabis Users

Cannabis use has received little attention in respect of interventions, mirroring the recency of attention given to the extent of use and association with dependence and problems (see chapter 1). The first controlled trial was published in 1994 by Stephens et al. This compared a relapse prevention group treatment with a social support discussion group among help-seekers who had been daily users. Twelve months after intervention, no differences were apparent between the two groups. However, there had been much change in both groups, in terms of reduced frequency of use and with approximately 17% being abstinent one year after treatment ended.

A later trial by this group (Stephens et al., 2000) compared an enhanced 14-session relapse prevention group with a 2-session individualised assessment and intervention

and a delayed treatment control group. The brief intervention condition was explicitly based on the Drinker's Check-Up, consisting of feedback of assessment data in the style of motivational interviewing. The study population (n=291) had a mean age of 34 years, were 77% male and 95% white and were generally long term daily smokers.

After four months, both intervention conditions proved to be distinct from non-intervention in terms of the main outcomes of frequency of use, dependence and problems. On five separate follow-up assessments up to 16 months after study entry and approximately 12 months after the conclusion of interventions, no differences were observed between the two interventions. On measures of frequency of use, dependence and problems, scores approximately halved in both groups over the course of the study period.

The only other brief intervention located targeting cannabis use is a recent uncontrolled study (Lang et al., 2000). This examined the potential of a psychotherapy-based "Integrated Brief Intervention" with data reported on 30 recipients with broadly similar drug use and related characteristics to those reported above. Substantially reduced use of cannabis and a positive impact on health and social problems are reported.

2.5 Preventive Interventions Targeting Children

2.5.1. The Content of Interventions Targeting Children for the Prevention of Tobacco, Alcohol & Other Drug Use

There have been many histories and reviews of the development of approaches to the prevention of cigarette smoking, drinking and other drug use among children and young people. Negreiros (1994) identifies an early history of alcohol temperance education as having taken place in the first decades of the twentieth century. This was succeeded by a period in the 1940s and 1950s where drug education was viewed as counterproductive (Midford, 2000). Recent reviews (Negreiros, 1994; Coggans & Watson, 1995; Evans, 1998; Botvin et al., 1998; Midford, 2000) describe three eras associated with distinct approaches to school-based activity in the years since the 1960s: 1. Informational approaches. 2. Affective education. 3. Social Influence Approaches.

The early modern approach to drug prevention (from the 1960s into the 1970s) involved the provision of information as the primary means of prevention (Midford, 2000). This contained a *"distinctly antidrug use orientation"* (Botvin et al., 1998). Fear arousal which centred on the potential harms of drug use characterised the informational strategy (Evans, 1998). Negreiros (1994) identifies a somewhat belated attempt during the 1970s to provide a theoretical basis for these interventions with an informative communicational model derived from contemporaneous social psychology.

Also in the 1970s, affective education developed following the popularisation of

humanistic psychology (Negreiros, 1994). The underlying model of this approach was that personal deficits in individuals accounted for the initiation of drug use and that affective (rather than cognitive) targeting should serve to diminish such risk (Botvin et al., 1998). Negreiros (1994) additionally emphasises the importance of humanistic and experiential methods of intervention and their coherence with broader ideas of the time. Although affective interventions themselves are no longer widely implemented, the alternatives approach, whereby other health enhancing activities are promoted, has been located within this tradition (Negreiros, 1994).

Evans (1998) recounts how dissatisfaction with the content and outcomes of these approaches led to a search for alternative means of influence in the late 1970s and into the 1980s. This body of work focused initially on social influences on cigarette smoking among pre-teenage children. Study of these influences led to the development of a Social Influences model. This is widely described to comprise three main components in relation to both cigarette smoking and other drug use (Botvin et al., 1998):

1. *Psychological inoculation* involves the provision of information on the negative effects of both smoking itself and of social influences, for example in relation to advertising. The objective is to make the target population as impervious as possible to the influence of pro-smoking messages.

2. *Correcting normative expectations* addresses over-estimation of the extent of cigarette smoking. The intention is to prevent widespread but erroneous beliefs exerting

negative influence on decision-making, again using information as an important tool.

3. *Resistance skills training* provides the practical means necessary to deal with peer and other influences. Role play and modelling exercises, for example, are employed to teach skills in the classroom for use in the playground and in the streets.

Notable applications of social influence approaches include Project ALERT (Ellickson & Bell, 1990), Resistance Skills Training (Donaldson et al., 1995), and Project DARE (Lynam et al., 1999).

An extension of the Social Influence approach has been described as an integrated social influence/competence enhancement approach (Botvin et al., 1998). Widely known as Life Skills Training (Botvin et al., 1990a; Botvin et al., 1990b), the distinctive feature of this approach is an emphasis on generic non-drug use specific personal management and interpersonal skills.

Negreiros (1994) locates both social influence and life skills approaches within a cognitive behavioural category whilst recognising distinct orientations on drug use situational and broader skills contexts. Botvin and colleagues who have developed Life Skills, and others (for example, Tobler, 1997) conceptualise this approach as related to but distinct in theory and practice from social influences approaches.

Life Skills, like social influence approaches, was initially developed to prevent cigarette

smoking initiation, and has subsequently been applied to alcohol and other drug use (Botvin et al., 1995; 2000). The departure from a purely social influence model involves recognition of the importance of other factors to drug use initiation. The Life Skills approach aspires to target the same social influence components and additionally a range of intrapersonal factors. These include problem solving, communication and coping, goal-setting and assertiveness skills, as well as interpersonal skills (Botvin et al., 1998) .

Programmes are usually delivered in year 7 (age 11/12 years) to whole class groups over a period of 15 weeks, with booster sessions in later years. This programming is similar to social influence interventions (for example Project ALERT contains 11 lessons in grades 7 and 8, with six further in the remaining school years (Ellickson et al., 1993) . Apart for the work of Botvin and colleagues cited above, another popular and similar application of this perspective is to be found in the programme of Life Education (Hawthorne et al., 1995).

Brief interventions do not feature significantly in the literature on prevention among children and young people. It will be seen in the next section that, according to the existing evidence, such benefit as is observed is associated with the relatively intensive programmes described above, applied over the long term with booster sessions (Botvin et al., 1995).

2.5.2 The Effectiveness of Preventive Interventions Targeting Children

Earlier reviews of the efficacy of primary prevention via drug education in schools tend to present much more negative findings. The ACMD, in the 1984 report on 'Prevention' (ACMD, 1984), were pessimistic about the potential for the development of effective interventions in relation to illegal drug use. In their 1993 report on 'Drug Education' (ACMD, 1993a), the tone was much changed and they suggested that there were greater grounds for optimism. DuPont (1998) underlined that primary prevention research has been informed by much societal investment in pursuit of *"the irrepressible dream of addiction prevention"*. In pursuit of this objective, he observed that;

"Experience has shown that it is remarkably difficult to demonstrate efficacy, especially sustained efficacy, in addiction prevention programs, so any benefit is hard earned and unusual." (DuPont, 1998)

DeHaes (1987) in a review of reviews conducted between 1974 and 1985, identifies the failure of drug-specific informational approaches to influence attitudes or behaviour, whilst giving rise to concern about negative effects. Swadi & Zeitlin (1987) echo this concern about counterproductive intervention and find little difference in outcomes between affective, alternatives and informational interventions. A much later meta-analytic review by White & Pitts (1998) found no evidence of counterproductive intervention. Both 1980s reviews pointed in the direction of multi-component comprehensive models of social influence and life skills types.

Two meta-analyses conducted by Nancy Tobler in 1986 and 1993 have proven to be influential reviews of this literature. Each relates to different time periods and with different selection criteria (Tobler, 1997). The later one embraces the years 1978 to 1990, and is restricted to 120 school-based prevention programmes employing experimental or quasi-experimental study designs. This analysis successfully identifies a range of components associated with intervention effectiveness. For the first time, effectiveness in relation to alcohol and other drugs is demonstrated (Tobler, 1997). Effectiveness in relation to cigarette smoking had already been established in the 1980s (Evans, 1998).

Taken together, without covariate analysis, school-based prevention programmes are found by Tobler to be ineffective (Tobler, 1997). The most important single factor associated with effectiveness was found to relate to intervention process: Where programmes were delivered in an interactive (as opposed to didactic) fashion, they were found to be effective. Content was found to be the second most important factor, with social influence and life skills equivalently effective after controlling for other variables. The bulk of the content of interactive programmes comprised social influence and life skills approaches. Non-interactive programmes were associated with information, affective and DARE (see later) approaches. The third major factor associated with effectiveness was the size of the study, with small programmes (20-400) being almost twice as effective as larger ones (Tobler, 1997).

Interactive programmes which focused on alcohol only are not as effective as generic

ones, which target all drug use, whilst for cigarette smoking they are equivalent. The most substantial effects were obtained for illicit drugs other than cannabis. Cannabis use was found to be influenced slightly more than both alcohol and cigarette use (which were similar). In interactive programmes, the highest effect sizes were obtained for delivery by mental health specialists and the lowest for delivery by teachers (Tobler, 1997).

For both non-interactive and interactive delivery methods, programmes were more effective in schools with ethnic minority populations in excess of 50%. Programmes which were school-based only were found to be less effective than those which involved broader community intervention. The findings were broadly replicated in the smaller dataset of 56 randomised trials only. However, there were high levels of drop-out of drug users in many studies and only 37% of all reports indicated that this was not differential between intervention and control groups.

DARE (Drug Abuse Resistance Education) has been one of the most popular social influence based prevention interventions, particularly in the U.S. (Lynam et al., 1999) where Police Officers typically deliver 17 one-hour sessions. Despite this popularity, accumulated evaluations (reviewed by meta-analysis by Ennett et al., 1994) point towards an absence of evidence for efficacy. DARE is somewhat unusual among social influence approaches in that it employs a didactic delivery style, which might partially explain its poor performance (Tobler, 1997). Notwithstanding the volume of research data on its lack of effectiveness, DARE is still taught in the majority of American

public/state schools (Lynam et al., 1999).

Effective Social Influence and Life Skills approaches may target either individual drugs or drug use in general (Ellickson & Bell, 1990; Botvin et al., 1995). The effects of these approaches are generic and comprehensive in the sense that they equip recipients to deal with interpersonal and intrapersonal pressures both generally and as they relate to the use of drugs (Botvin et al., 1998; Botvin et al., 2000).

It has proven difficult for primary prevention interventions to secure long term effects, with almost all evaluations of those programmes found to be effective, being conducted during school attendance. Ellickson et al (1993) observed that the impressive effects of Project ALERT ended as soon as the lessons stopped at the end of high school. These authors suggested that more intensive and ongoing intervention was necessary for longer term effects. Perry et al. (1992) demonstrated that long term cigarette smoking effects were achievable where school-based activity was complemented by broader community intervention.

Johnson et al. (1990) reported community intervention effects on reductions in cigarette and cannabis use (but not alcohol) among both low and high risk children and young people. Perry et al. (1996) later demonstrated community level effects on alcohol prevalence. Biglan et al. (2000) compared school-based only cigarette smoking prevention programmes with whole community interventions and found the latter to impact differentially on alcohol and cannabis use as well as on cigarette smoking. Chou

et al. (1998) found that a community intervention was effective in relation to cigarette smoking and alcohol consumption among high-risk young people.

The Life Skills intervention is known to have been evaluated only as a school-based intervention. Much of the data supporting efficacy has been from evaluations of interventions in white middle class populations and relates to cigarette smoking, drinking and cannabis use (Botvin et al., 1995). Subsequently this approach has been tested among inner-city ethnic minority school students, with promising results (Botvin et al., 1997). Ensuring intervention fidelity and the need for booster sessions have been highlighted as necessary for long term effectiveness (Botvin et al., 1995). Recently, Botvin et al. (2000) have also observed long term benefits in relation to the use of a wide range of illegal drugs.

Gorman (1995) has been critical of claims of effectiveness for school-based prevention activity of both the Social Influence and Life Skills types. He argues that many variables used as outcome measures are flawed and that the multiplicity of outcomes studied has permitted undue emphasis on smaller numbers of statistically significant findings. Stotthard & Ashton (2000) also point to a recurring methodological problem in the evaluations of Life Skills Training; the avoidance of control for the effect of clustering consequent upon classroom group allocation and intervention delivery and individual level analysis. The most recent paper by Botvin and colleagues (2000) provides two analyses, one incorporating this statistical adjustment and another which does not. There are differences in outcomes for individual drugs, but the overall pattern of results

is similar.

Prevention initiatives may embrace both primary and secondary prevention objectives. There are conflicting data available on whether these are complementary to each other and on effectiveness in relation to those at early stages of involvement with particular drugs. Project ALERT, for example, while identifying benefits in relation to experimental cigarette smokers, produced negative results for smokers (Ellickson & Bell, 1990). In Project Northland enhanced benefit was observed for those who were non-drinkers at study entry (Perry et al., 1996). Secondary prevention effects have been reported in the long running primary prevention Midwestern Prevention Project (Chou et al., 1998).

The prevention literature is largely American in origin and British reviews tend to be cautious about cross-cultural validity, and generally draw much less positive conclusions than those reviews already cited. Two recent systematic reviews of prevention outcomes for alcohol and drug use (Foxcroft et al., 1997; White & Pitts, 1998) included 76% and 90% of studies from the U.S. respectively.

In relation to work undertaken in Britain, the Royal Colleges of Physicians & Psychiatrists recently observed (2000) that;

"In the U.K., although a great deal of money and rhetoric are directed at programmes for reducing demand for drugs, it is difficult to point to any evaluated work of significance."

This is notwithstanding the "new impetus" for drug education activity within schools that followed the publication of the ACMD report on that subject (ACMD, 1993a). Recently, the Office for Standards in Education (OFSTED) has reported on the quality of school-based provision (OFSTED, 2000). They found that the majority of drug education lessons achieve targeted knowledge gains and that teaching quality was weakest in key stage 4 (years 10 and 11). Much progress has been made on the introduction of drug use policies in recent years and the police directly contribute to drug education in 64% of secondary schools. Monitoring and evaluation takes place using a "narrow" range of methods (OFSTED, 2000).

Among the few studies available of drug prevention in British schools, Coggans et al. (1991) reported on a national evaluation of drug education in Scotland. In a nationally representative cross-sectional survey, they found knowledge enhancement but no effect on attitudes or behaviour.

Two outcome evaluations of a single life skills curriculum for primary schools, adapted from American materials and known as Project Charlie, have been undertaken (McGurk & Hurry, 1995; Hurry & McGurk, 1997; Hurry & Lloyd, 1997). The first was a controlled trial of 120 participants in a contrast between receipt of the programme over a school year and non-intervention control (McGurk & Hurry, 1995; Hurry & McGurk, 1997). This found effects on knowledge and taught skills but not on drug use nor on future intentions. The later study (Hurry & Lloyd, 1997) involved sub-samples with small

numbers; a sample of 34 from the above study population; a further matched sample of 42; and a comparison sample of 233. This study claimed a number of benefits but has not been scientifically published. In contrast to the earlier findings, no effect on knowledge was observed while effects on attitudes and behaviour in the form of the use of tobacco and illegal drugs were reported (Hurry & Lloyd, 1997).

Despite shortcomings, these studies are noteworthy as sparse examples of evaluation of British based prevention practice. Bloor et al. (1999) evaluated a peer-led anti-smoking programme in schools which produced some moderately encouraging results. Aveyard et al. (1999) tested an individualised computerised intervention, based on the stage of change model, among Birmingham school students and found it to be ineffective. More recently, the Drug Prevention Advisory Service have published a process evaluation of the first year of a school-based drug prevention programme (Stead et al., 2000).

Congruence with broader culture is argued by O'Connor & Saunders (1992) to be central to the success of prevention initiatives. In this light, it should not be surprising that the identification of effective intervention for cigarette smoking took place earlier than for alcohol consumption. These writers also identify insufficient engagement with motivational factors as a key weakness in prevention pursued through drug education (O'Connor & Saunders, 1992). It may be that those prevention programmes that have been found to be most effective recently, have succeeded in addressing this weakness. Indeed, engagement with motivational issues in broader life context is an important

aspiration of the life skills approach.

Conclusions

Brief interventions have been identified as exemplars of public health intervention for cigarette smokers and hazardous drinkers in the general population. Motivational and cognitive preparation for change have been identified as important intervention objectives. Recent cross-fertilisation of insights and developments in respect of these targets for intervention gives rise for optimism that further gains are to be made in respect of efficacy. An important additional public health imperative is to develop the existing evidence base in respect of reach beyond those using formal healthcare services. Innovation in intervention development includes attention now being given to the distinct needs of young people for intervention seeking to influence their drinking and smoking.

The public health logic of brief interventions has yet to be extensively applied to illegal drug use beyond HIV risk reduction. Isolated studies among adult drug users suggest that there may be potential for such application. Evaluation of the use of brief intervention specifically for young people who are drug users is not known to have yet occurred.

Effective preventive intervention with children has features which are somewhat distinct from those of brief interventions with adults. Individualised assessment and intervention delivery and a primary focus on personal drug use are generally absent.

Life skills and personal competence are emphasised and where drug use is raised, the use of both legal and illegal drugs may be considered.

The needs of young people who have already initiated illegal drug use are not known to be met by either adult or child-targeted interventions. Possibly, the application of brief intervention offers most promise where these needs are well-understood at the individual level. An important strand of enquiry concerns interactivity. Interventions appear most effective among adult cigarette smokers, adult alcohol consumers and children when they are conceptualised not as some thing done *to* recipients but *with* them. Interventions may be effective in some cases where recipients are passive, such as when advice on risk is given to adults or children. Interventions appear to be most effective, however, where there is cognitive and motivational engagement and meaningful communication with others.

The literature reviewed in this chapter provides promising material for the search to find ways of meeting the needs identified in Chapter 1. The implications of this material for the design of intervention are explored in detail in the next chapter.

CHAPTER 3 THE DEVELOPMENT OF A BRIEF INTERVENTION FOR USE WITH YOUNG PEOPLE WHO USE DRUGS

Synopsis

A description is given in this chapter of how promising material from the interventions literature may be adapted to the needs of young people who use drugs. The process by which an intervention was developed is described, along with a presentation of the characteristics of the intervention. A selection of issues are then presented for further consideration as bearing upon the intervention as it was actually delivered.

Introduction

The means by which interventions are developed are often not well detailed in studies of their evaluation. The intention behind this chapter is for the methods used to develop the intervention under study to be made visible to the reader, to permit further scrutiny of the object of this evaluation. In so doing, lessons may be learned for the further development of this and similar interventions. This will complete the background to the efficacy study which is outlined in the chapters that follow.

3.1 Intervention Content

3.1.1. Observations on Motivational Interviewing & Advice-based Approaches

The distinction between advice-giving and condensed psychological intervention has been considered (Heather 1989; see chapter 2). Growing recognition of the importance of motivation has led to increased interest in motivational enhancement as an intervention goal, and interest in the techniques associated with motivational interviewing (MI). In this context, Rollnick & Miller (1995) were concerned to outline the "essential spirit of the approach", in part to differentiate it from other interventions with which it may be confused. In this account the distinctive nature of the balance to be struck between being client-centred and directive is emphasised.

More directive interventions are generally likely to make more use of advice in one form or another. This has been associated with psychological reactance in healthcare settings (Rollnick et al., 1999) in ways similar to the use of confrontational approaches in alcohol treatment settings (Miller & Rollnick, 1991). Rollnick et al. (1999) describe an attempt at persuasion as being implicit in the giving of information or recommendations in the form of advice. Unsolicited advice is contradictory to motivational interviewing, but advice nonetheless, is held to be a key characteristic of effective brief intervention (Miller & Sanchez, 1994).

Advice may or may not be delivered within the framework of MI in a more complex form than simple advice along the lines of "you should do this for these reasons". This is possible, because MI specifically seeks to manage the discussion in either of two ways;

to make simple advice redundant because the client reaches a conclusion themselves or; to have the client to request particular advice or information pertinent to increasing motivation. The latter course of action may be pursued when judged strategically important. The delivery of advice must presumably be handled with great care in this context, to avoid negating other elements of intervention.

MI seeks to create a climate in which advice may be requested on a personalised basis and is available immediately to effect further cognitive, affective or behavioural shifts, within a supportive environment. Simple advice may be attractive for public health purposes as potentially more widely dispensed, and it may not require individualised delivery. Where there is no prior consideration of motivation, advice is inevitably dispensed to some who are not ready to act upon it.

Even amongst those assessed as contemplating or determined to change, there is the possibility of defensiveness or resistance (Rollnick, et al., 1992a). So whilst advice undoubtedly can be efficacious with some, it may be a rather blunt instrument for intervention. In discussing alcohol advice-giving to all excessive drinkers in general practice, Rollnick et al.(1997a) describe this strategy as an "insensitive shotgun approach" which they suggest may be partly responsible for low uptake and unfulfilled expectations.

3.1.2. The Content of Brief Applications of Motivational Interviewing

The issue of how best to integrate the potential of brief intervention and MI has been

considered by Miller and others. Miller (1996) asked the following question;

"If one were to try to manifest FRAMES within a single therapeutic intervention, how would it look? Motivational interviewing, as originally described (Miller, 1983), is more a style of therapy than a set of particular techniques (Rollnick & Miller, 1995). In searching for a technical approach that would capture the essence of brief intervention, we struck upon the idea of offering a "drinker's check-up" "

The Drinker's Check-up as originally described (Miller et al., 1988), consisted of a two appointment intervention where the first appointment involves assessment of the physical, psychological and social consequences of alcohol use. The second appointment, usually one week later, involves feedback of results delivered in the style of motivational interviewing. This was extended to the four session Motivational Enhancement Therapy tested in Project MATCH (Miller et al., 1992).

"Derived from a health-promotion model, the Drinker's Check-up is offered to individual drinkers as a means for discovering what negative effects (if any) alcohol may be having on their lives" (Miller et al., 1988)

This model can be adapted to a single session in circumstances where it is not necessary to wait for blood, neuropsychological or other test results to be returned. In the original paper, the authors discuss potential screening applications, including advertisement to enable self-assessment. The objective nature of the data is

underscored and a tone of curiosity about impact adopted as a means of gentle confrontation (Miller & Rollnick, 1991). Support of this process of cognitive and affective appraisal and evaluation of new information about self and problem may facilitate radical transformations of behaviour (Miller, 2000).

Forms of delivering feedback other than by using MI techniques are possible. Agostinelli, Brown & Miller (1995) offered feedback of assessment data via post in a randomised controlled trial in comparison to a no feedback control group and superior drinking outcomes were associated with feedback. Feedback per se has thus been demonstrated to be influential in promoting change (Miller & Sanchez, 1994; Bien et al., 1993a).

The Drinker's Check-Up is based upon a comprehensive assessment of alcohol consequences. There are numerous examples in the literature of other brief or comprehensive assessment-led interventions, some of which employ MI techniques (Wallace et al., 1988; Kristenson et al. 1983; Israel et al., 1996; Sobell et al., 1996b; Marlatt et al., 1998; Cordoba et al., 1998; Stephens et al., 2000)

Rollnick and colleagues (Rollnick & Bell, 1991; Rollnick et al., 1992a) have developed a model of brief motivational interviewing for use by non-specialists, which is distinct from the assessment-based approach described above. Following some preliminary assessment of readiness to change, the interviewer selects from a menu of strategies in the form of topics or areas of conversation. Each item on the menu involves 5 -15

minutes discussion and items are ordered in terms of degrees of readiness to change. The menu suggested for use in medical settings in ascending order of readiness to change is as follows (Rollnick et al, 1992a);

1. Opening strategy: lifestyle, stresses and substance use
2. Opening strategy: health and substance use
3. A typical day/session
4. The good things and the less good things
5. Providing information
6. The future and the present
7. Exploring concerns
8. Helping with decision-making

Successful eliciting of self-motivational statements in these brief segments, allows the interviewer to proceed to strategies indicated for higher readiness to change in the remainder of the time available. This format is designed for consultations up to 30 minutes or more, allowing the use of multiple strategies (Rollnick et al., 1992a).

In a somewhat similar fashion, Saunders, Wilkinson & Allsop (1991) describe a "portable" motivational intervention. This was developed in the context of a methadone clinic for heroin users and was delivered adjunctively to those initiating treatment (Saunders et al, 1995). Rather than there being a menu of strategies from which selections are made, a "therapeutic agenda" is used to structure the conversation. This

contains seven items, all of which are discussed. These are in many ways similar to the items above; the good things; the less good things; lifestyle satisfaction; problems and concerns; costs and benefits; highlight discrepancy; and agree future intentions.

The main differences with the approach of Rollnick et al. (1992a) relate to the delivery of this material and the management of the conversation. All items are intended to be discussed during a one hour session, and also to inform a 20 minute or so follow-up one week later (Saunders et al., 1995). The method outlined by Rollnick et al. (1992a) was developed in the context of a study of a 30 - 40 minute brief intervention with male heavy drinkers in a hospital setting (Heather et al., 1996), whilst being designed to be applicable to other behaviours.

Later work by Rollnick and colleagues (Stott et al., 1995; Stott et al., 1996; Rollnick et al., 1997b; Rollnick et al., 1999) has further developed this approach to brief intervention for the general practice context and applied it to other health behaviours. Rapid methods have been developed for 10 minute consultations including for assessment of readiness to change and for agenda setting (Stott et al., 1995; Stott et al., 1996; Rollnick et al., 1997b). Focusing conversation on the importance of change or on confidence to change has involved strategies being re-formulated to meet defined tasks. Patient-centred medicine has been emphasised as the framework for these negotiations about behaviour change (Rollnick et al., 1999). Contextual constraints limit the extent to which these methods can be defined as operationalisation of MI.

Monti et al. (1999) employ a topic-based MI approach which involves use of assessment and feedback in their study of brief intervention among young alcohol-related hospital emergency room attenders. During 35 - 40 minutes, the five sections to be discussed are; introduction and review of circumstances of attendance; pros and cons; feedback of computerised assessment data; imagining the future; and establishment of goals.

Baker and colleagues (Baker & Dixon, 1991; Baker et al., 1993; Baker et al., 1994; Baker, 1995) employ a less structured approach to the application of MI to HIV risk reduction among injecting drug users. Identified elements are used to guide the conduct of interview, somewhat analogous to menu items, as opportunities arise, rather than in a particular sequence. These include pros and cons; discrepancy-highlighting; discussing longevity and life goals; providing feedback; emphasis of choice and responsibility; promoting optimism about change; discussion of change and relapse prevention strategies.

A distinction has been made between approaches that are assessment and feedback-based and those which are topic-based. The former are characterised by the feedback of assessment data as the primary means of structuring the conversation and as the basis for exploration of areas in which self-motivational statements may be made. The latter organises the discussion via a series of conversational exercises expected to be helpful in eliciting relevant material. These approaches are not mutually exclusive and interventions may employ elements of both (e.g. Monti et al., 1999), or be more

unstructured (e.g. Baker 1995). Studies which refer to a motivational interview as having been conducted and which do not further detail content are thought more likely to be unstructured or to employ both assessment and topic-based activity (for example, O'Neill et al., 1996).

3.2 The Needs of Young People Who Use Drugs

3.2.1. Characteristics of the Target Population

Need has been defined as the ability to benefit from intervention (Stevens & Raftery, 1994). Young people who are users of illegal drugs are more likely to have been, and to continue to be, users of legal drugs (Miller & Plant, 1996; Sutherland & Willner, 1998; Goddard & Higgins, 1999; Ramsey & Partridge, 1999; Parker et al., 1998; Measham et al., 2001). Numerous public health targets may be identified when considering trends in the prevalence of both legal and illegal drug use among young people over the course of recent years. Notwithstanding this suggestion, there is a limited epidemiological basis for the targeting of particular risk factors, in the British context (see chapter 1). Definitions of risk or vulnerability that have been influential at policy level emphasise the interaction of multiple risk factors, both drug-related and otherwise (Social Exclusion Unit, 1999; DrugScope/DPAS, 2001; Social Services Inspectorate, 2001).

Young people may be viewed as being at enhanced risk of certain types of harms/problems by virtue of age-related factors. For example, adolescent psychosocial difficulties are known to be likely to promote involvement in cigarette smoking (Goddard, 1990). Risks attendant upon experimental drug use or patterns of use associated with young people, for example, binge drinking, may also be interpreted as giving rise to distinct needs (Newcombe, 1992). Social exclusion and other factors neither specifically age nor drug-related are believed to make more likely greater levels of involvement with those types of drug use of most societal concern (ACMD, 1998).

The more it is the case that age-related or environmental factors are influential, the less likely that interventions effective with adults will also be effective with young people. Arguably, the general characteristics of potential benefits for young people who are smoking cigarettes and cannabis, drinking above recommended limits and using other drugs, are not age specific (although age may well have some influence on the extent of benefit). Targeted psychological intervention will be hypothesised in this study to result in benefits among young people similar to those observed in studies of the opportunistic use of brief interventions with adults for public health purposes.

The Gateway literature provides another framework within which risks and needs may be interpreted. The cascade of consequences model (Kandel et al., 1986) suggests that minor modifications in particular risk factors may serve to influence risk more broadly. Risk factors vary in the extent to which they are amenable to intervention. Risks may be targeted specifically or broadly by intervention. Both limited data and the prevailing policy context point towards a broad view being taken both of risk, and in definition of the target population. In this light, extent of involvement in illegal drug use will be used to determine targeting.

It is to be expected that alcohol and cigarette use will be heavier than observed in young people generally (Sutherland & Willner, 1998; Ramsey & Partridge, 1999; Parker et al., 1998; Measham et al., 2001). Involvement in drug use at earlier ages also serves as an important indicator of heightened risk of later drug problems and for psychosocial difficulties more generally (Anthony & Petronis, 1995; Fergusson & Horwood, 2000).

3.2.2. The Nature of Intervention Objectives

Intervention with young people may involve an emphasis upon the prevention of future harms or the targeting of existing harms or problems with a view to amelioration. The approach to targeting adopted is consistent with intervention at Tier 2 in current policy guidance (HAS, 1996; UKADCU, 2001). This involves a primary emphasis on preventive intervention, whilst retaining the capacity to identify and positively impact upon current harms.

There is not a clearly defined single problem which intervention seeks to prevent. Drug problems (and the risk of experiencing them) have been most usually considered as an array of harmful consequences of current patterns of use (ACMD, 1982; Institute of Medicine, 1996). Escalation in risk, either in the use of a particular drug or in the initiation of high-risk drugs has also been identified as a target for preventive intervention (ACMD, 1984; Institute of Medicine, 1996).

The aetiology of drug use problems has not been extensively studied in the British context. Escalation in risk, defined as the use of different drugs, occurs through the teenage years and into the twenties (Kandel & Logan, 1984; Measham et al., 2001). Individual variability makes desirable flexible pursuit of intervention objectives in order to achieve long term population-wide minimization of harm. Individually tailored, interactive intervention appears necessary. Construed in these terms, the objective of intervention is to seek a modification in the relationship of each individual to their own drug use and

related risk factors. This requires in part, an intervention orientation on the future.

This approach contrasts with what has been termed a risk-focused prevention approach (Hawkins et al., 1992). In the simplest form a specific risk factor will be selected which is known to be strongly associated with a particular problem to be prevented e.g. the sharing of needles and HIV transmission. Interventions which succeed in persuading injectors not to share needles will be successful in preventing HIV transmission where there are no other sources of risk. In this case, an alternative mode, sexual transmission, is also known to require targeting as a risk factor. Interventions which are effective in changing behaviour in these two areas, will by definition prevent HIV transmission in this population.

Partly because of their inherent heterogeneity, drug-related harms have numerous risk factors operating in complex fashion in any given population (Hawkins et al., 1992; Strang, 1994; Newcomb, 1996; Petraitis et al., 1998). The intervention to be developed will seek to identify and address risk factors for the individual, wherever it appears feasible to do so.

According to the model of risk employed by Kandel et al. (1986), reduction in risk which is secured in the short term, may have the potential to result in longer term beneficial outcomes. This temporal distinction made has been framed in terms of intervention aspiration, as being between *"proximal programmatic objectives and distal prevention goals"* (Snow & Tebes, 1991).

One major consequence of an orientation on risk and the prevention of future harm is that behavioural change may or may not be necessary to secure harm minimisation. It cannot be assumed that all those receiving the intervention will benefit from a change in current drug use behaviour. Identified risks may be targeted for reduction. Alternatively, non-behavioural changes, for example in values, attitudes or knowledge may prove significant in minimising future risk, or it may be that no change is required. According to Rollnick et al. (1999), the person in receipt of intervention *"is usually the best judge of whether behavioral change will be beneficial".* An intervention which assists young people to reflect on risk may thus meet needs by influencing behaviour, or in ways which are more "subtle" (Saunders et al., 1995).

3.2.3. Receptivity of Young People to Motivational Interviewing

The attractiveness of intervention is an important component of potential public health impact. Tober (1991) and Lawdenowski (1998) consider MI to be particularly attractive to young people as it is non-confrontational, facilitative and does not seek to impose specific outcomes. Some of these things may also be true of other approaches used with young people. It was decided that attractiveness of intervention required separate study.

The possible attractiveness of MI to young people, particularly drug users, may stem in part from the perceived likelihood of psychological reactance that may be anticipated with more directive intervention. Young people may resent being told what to do,

particularly by adults. The illegal nature of many of the drugs used by young people make them generally wary of adult intervention. Advice may be perceived to be similar to that which they have already rejected (in the form of primary prevention).

The management of ambivalence is a central function of MI. In the context of the present study, it was expected that there would be less ambivalence about drug use among young people than is common with adults (and problem users in particular). In prevalence surveys, generally speaking, few problems are perceived and rather more benefits associated with drugs used (HEA, 1996).

The opportunity afforded to prompt young people to consider the impact of drug use on other life areas and relationship to values and goals may be particularly useful for this reason. Ambivalence may be articulated where problems or significant risks are identified. In those cases where significant problems are revealed, it can be expected that MI may more closely follow the accounts of applications in other populations.

3.3 Intervention Development

3.3.1. The Structure of a Brief Intervention for Young People

Having decided to develop a MI based intervention, the question arises as to what form this should take. Motivational interviewing, it is emphasised, is a *style* of counselling (Rollnick & Miller, 1995): a way of talking to people to help them towards behavioural change where appropriate to reduce problems or risks, which strikes a balance between client-centredness and directiveness.

At the heart of the assessment and feedback model, lies the provision of objective data in a constructive atmosphere in which the impact of data may be considered. MI techniques are used then to help the recipient to explore the implications of the data and express and resolve ambivalence.

Some difficulties were anticipated when considering the application of this model to young people and their use of illegal drugs in particular. The equivalents of epidemiological and aetiological data on alcohol and smoking were not expected to be so readily accessible and easily given to intervention materials development. Data of these types perhaps assume a greater significance in the absence of biological or other existing harms. Where less harm is evident, the impact of the Check-Up may in any case be blunted.

More importantly, varied subjective perceptions of the meanings of drug use were anticipated. It was thought likely that adolescent psychosocial factors would be

influential in the attribution of risk and problems to drug use, and thus be less amenable to objective data collection and feedback. Deviation from population normative patterns may also be viewed as less relevant than peer reference points. Having made these remarks, it is noted that there is an example in the literature of a Check-Up being adapted to heavy cannabis use for adults (Stephens et al., 2000).

The alternative model for brief application of MI principles was the structured conversation approach tested in an number of efficacy studies (Saunders et al., 1995; Heather et al., 1996). This model offers the possibility of flexible progress towards motivational change through the targeted use of portions of conversation. This approach appeared attractive as a means of combining both structure and flexibility, affording a high degree of interactivity, without losing sight of purpose. There appeared no reason to believe that this approach could not be adapted. In fact, applications to non-drug use behaviours in various health contexts had already been undertaken (Rollnick et al., 1999).

In accordance with the general perspective of brief intervention and the broad approach taken to drug-related risk, impact upon any aspect of drug use was deemed to be desirable. Drug use, however, presents not one single target behaviour, but a range of behaviours which may or may not be inter-related subjectively and objectively. In line with the spirit of MI, it was thought preferable not to impose or target a particular behaviour. Choice about which drugs were discussed and to what extent, was deemed to be integral to strategy and topic development.

Rollnick et al. (1999) recommend that negotiating behaviour change requires a focus on one specific behaviour at a time, for both reasons of motivational variability and targeting and intervention management in the context of brief consultations. Stott et al. (1995) have developed an agenda-setting chart which allows the patient to select a subject that they wish to speak about. A similar approach could be used with this target population, possibly affording multiple selections to be made. Longer interventions could thus be conceptualised as a sequence of brief focused discussions of different drugs or drug types used, or other aspects of risk. In this way, the client choice of target behaviours for discussion would precede selection of particular topics to be used.

Alternatively, it was hypothetically possible to accommodate diversity of target behaviours within a topic based structure. Perhaps initially involving the range of drugs being used, and moving on to address particularly promising areas of drug use or risk in line with client preferences. The main potential disadvantage of this approach was thought to be difficulty in management of material, with consequent problems in clearly and effectively focusing on specific behaviours. The advantage offered, in contrast to the previous method, was that some consideration could be given to all drug use behaviours. It was thus decided to seek to develop core topic material which would initially involve some discussion of each drug, whilst giving careful attention to how manageable this was in practice.

Time and opportunity are important principles in determining the specific content of brief

intervention (Mattick et al., 1994). Multi-session interventions may be particularly appropriate where monitoring of ongoing attempts at behavioural change is desirable. Given uncertainty about the practicalities of delivering multi-session interventions, in various contexts, and potential problems in compliance, it was decided that the intervention should consist of a single session. This decision was also informed by an expectation that this type of conversation could relatively quickly identify risks and problems and move towards reflection on them and the possibility of change.

No contacts with the recipients were envisaged in advance of the delivery of the intervention. Given that the starting point of the intervention would thus involve a meeting of two 'strangers', it was considered that an extended session was preferable to a brief format. It was thus decided to allow up to one hour for the intervention. It was thought possible that length of session could be reduced elsewhere where there had been prior contacts with recipient. Given the topic-based approach to be adopted, it was expected that a minimum intervention time would emerge at the point at which a decision that further topics would not be helpful and the recipient chose to end the interview.

Setting and other contextual considerations are relevant to decisions about intervention structure. A setting which is congruent with the type of conversation envisaged is required. It will be reported in chapter 6 how further education colleges were chosen as the setting for recruitment of study participants. Interview rooms were identified to be used routinely for the delivery of interventions. If necessary for practical reasons, and in

accordance with an intention to make the intervention as informal as possible, it was also allowed that informal venues such as cafes would be used, subject to considerations of privacy and noise.

3.3.2. Piloting the Developing Intervention

Piloting embraced not just refinement of the delivery of the intervention under study, but final decisions being made about the design and content of the intervention itself (see above). In the early stages of development, a wide array of strategies had been formulated. These were constructed in a style similar to that used by Rollnick et al. (1992a) with material organised by three sub-headings - aims and objectives; techniques; and notes on delivery. Role play was initially used to test the feasibility of and to develop the content of the strategies.

This stage was followed by an arrangement to pilot the developing intervention in the study setting with the target population. A college was identified just outside the defined geographical area (see chapter 6), and arrangements were made to interview young people who would otherwise have been eligible for participation. These students were diverse both in terms of their involvement in illegal drug use and sociodemographically.

The flexible selection of topics approach of Rollnick et al. (1992a) and the more standardised approach of Saunders et al. (1991) were both tested at this stage. It was found difficult to manage the conversation in two versions of a highly structured conversation, as described and used by Saunders et al. The content tested in this way

had the effect of unhelpfully breaking up the conversation, rather than organising it. When a young person began talking about a risk or problem, making self-motivational statements, it frequently proved awkward to relate this material to the next segment of conversation proposed.

In contrast, the less prescribed approach (in the style and method of Rollnick et al.) allowed the conversation to be more free flowing, but not aimlessly so. Rapport was quickly established and there did not appear any great barriers to talking with a stranger about drug use. Some young people were quiet initially, but this form of resistance was generally short-lived. Discussion of the use of different drugs was managed in the intended way.

All conversations were judged to have successfully engaged exploration of issues such as risk perceptions, exploration of meanings, and the pros and cons of various changes. The 'menu' approach was decided upon and developed. After each pilot session, the young person was asked informally about their experience of it. Potential strategies were tested in these ways and prior to the beginning of study recruitment and intervention delivery, a protocol was finalised. Notwithstanding the structure provided by this, it became obvious during piloting that the actual course and content of the interventions being studied would vary greatly between individuals. This underlined the importance of process and feedback data collection.

3.3.3. Comparison with Rollnick et al. (1992a)

The work of Rollnick et al. (1992a) provides the closest reference point in the literature to the intervention being studied and much of the material was adapted from this earlier work. Of the eight strategies developed by Rollnick et al. (1992a), three were used as the core intervention components, four were optional menu items and one was not used.

1. *Opening strategy: lifestyle, stresses and substance use* This core strategy was employed in a similar fashion, with open questions additionally focusing upon college studies, friends, family and leisure time. It was less concerned with stress or areas of difficulty, and similarly concluded with a brief enquiry about drug use. This was retitled to reflect these changes as; Getting To Know You: College Studies, Leisure Time, Friends & Lifestyle.

2. *Opening strategy: health and substance use* This was omitted altogether as not prioritised in terms of the needs of the target population, nor congruent with context. Health issues were raised and discussed in other topics.

3. *A typical day/session* Was extended to also allow scrutiny of a week as a whole with pinpointing of particular episodes of use. This was to gain a broader picture of the use of various drugs in the context of college, work and other commitments. This was used not a core strategy, but in the event of difficulties in identifying risk, unsuccessful engagement, or as indicated by other material.

4. *The good things and the less good things* Was the second core strategy, was used usually after topic 1 above, and involved discussion of all drugs being used.

5. *Providing information* The content of information-giving as a topic was in some ways similar but was strategically handled differently. This was employed at a much later point and offered in the form of a question about whether there was any information about any aspect of drug use wanted. This was used in two ways: a) Either after the decision-making item, in the MI way, to aid decision making about change or; b: As a brief educational intervention in its own right.

6. *The future and the present* Was adapted to give more emphasis to a broader discussion of values and goals. This was the third and final core strategy and involved a consideration of the relationship between drugs used and the material gathered. College studies and career and other longer term aspirations played a major part in this strategy. This was retitled as; What's Really Important: Values And Goals, The Present And The Future. Issues identified at this point are used to inform both the further use of topics and which drugs are most prominent in further discussion.

7. *Exploring concerns* Was used in a similar way for material that had already been identified. In addition to problems, this involved an orientation on risk or potential problems in the future.

8. *Helping with decision-making* Was used again in the standard way.

To the seven strategies retained or adapted from above, six others were added; Feedback and Discussion of Assessment Data; Risks and Problems; Hypotheticals; Decisional Balance; Controlled Drug Use; Making Plans and Making Changes. These, as will be seen, fall broadly into two types: 1. Those which seek to further develop motivational material elicited during the conversation. 2. Exercises to be used in the event of lack of progress along intended course. Much of this material has been derived from the MI literature.

Feedback and Discussion of Assessment Data involves using the brief self-completion questionnaire (research instrument) as a tool for gathering self-motivational statements where limited progress had been made elsewhere.

Hypotheticals exercises are used for those who are not able to identify or ready to articulate risks or problems. They seek to encourage thinking about how risks and problems are defined and to enable personalised risk statements to be made.

Risks and Problems gathers material from earlier in the conversation, as well as considering afresh whether or which risks or problems can be identified in a comprehensive reflection on drug use in life context. The scale or significance of material is evaluated for decisions about focus on particular substances.

Decisional Balance Exercises are well known tools which are here used when a clear

decision has not been reached as to whether changes should be implemented in the use of any particular drug.

Controlled Drug Use is an introduction to behavioural self-control training and the use of simple self-help methods and materials. These are included as appendix 1.

Making Plans and Making Changes is a brief equivalent of phase two of motivational interviewing (Miller & Rollnick, 1991; Miller et al., 1992).

3.3.4. The Conduct of the Interview

These strategies served as the main structural components of the intervention under study and their use was preceded by a brief introduction. The intervention protocol thus consisted of a series of these topic outlines, similar to those developed by Rollnick et al. (1992a). These were produced initially for developmental purposes to define the aims and content of each section as follows (outlines themselves included as appendix 2):

1) Getting To Know You: College Studies, Leisure Time, Friends & Lifestyle
2) Feedback And Discussion Of Assessment Data
3) A Typical/Recent Time
4) Good Things And Less Good Things About Drug Use
5) What's Really Important: Values And Goals, The Present And The Future
6) Risks & Problems
7) Hypotheticals

8) Exploring Concerns

9) Evaluation & Decision-Making

10) Questions & Answers (Providing Information)

11) Decisional Balance Exercise

12) Controlled Drug Use (Introduction To Self-Monitoring)

13) Making Plans And Making Changes

The strategies chosen were projected to be used in the following sequence. Everyone was to receive topics 1, 4 and 5 and to progress through 6, 8, 9, and 11, as appeared most useful, to end with 12 and/or 13. Strategies 2, 3, 7, 10 were used when it was deemed not possible or desirable to progress in the intended sequence. The numbers given reflect the points in the conversation when the use of a topic was anticipated as being most used in the event of least progress being made.

3.4 Observations on & Discussion of the Content of the Intervention being Studied

3.4.1. The Question of Directiveness: Is this Motivational Interviewing?

This section of this chapter concerns observations of the investigators personal experiences during development and delivery of the intervention. Hence some of the description is given as first person report. The intervention under study amounts to more than the strategies outlined in previous sections. The delivery of this material in the context of the study conditions is being evaluated, and it would therefore appear appropriate to add observations on what actually took place rather than to give an account which was simply comprised of initial intentions. The balance struck between directiveness and client-centredness is a defining characteristic of MI (Rollnick & Miller, 1995), and is thus important to reflect upon.

Rollnick et al. (1999) describe the function of directiveness as giving structure to the discussion, and negotiation as being analogous to a merging of agendas, as characteristic of interaction of this type. I was acutely aware of my attempts to influence both the process and outcomes of cognitive and motivational reflection, in ways believed to be consistent with the spirit of MI (Rollnick & Miller, 1995). The structure being given was more than the offer of a menu of topics for discussion, consisting more of a mode of thinking and reflection. An issue-seeking orientation was characteristic of early intervention activity.

A 'dancing rather than wrestling' analogy has been used (Allison, cited both by Rollnick

et al., [1999] and Miller [1999]) to illustrate the nature of the MI relationship. In this case, the dance was certainly led by myself, and generally speaking my partner did not know the steps! The term 'seduction' has also been used to highlight the more directive aspects of MI (VanBilsen & VanEmst, 1986), which captures something of the covert persuasion involved. That it is hypothetically possible to depart from the spirit of MI in ways which are effective, whilst remaining covert, raises ethical and related questions. In this study, at times the delivery of the interventions appeared to me to have less of a spirit of 'partnership of equals' and more of an exercise in psychological technology transfer.

One conclusion potentially drawn from reflective practice which emphasises the issue of directiveness is that what is being described has violated the spirit of MI as outlined by Rollnick & Miller (1995).

That MI may be implemented in single-session interventions following assessment is well established (Miller et al., 1988; Marlatt et al., 1998). Is there anything about the manner in which it has been applied in the context of this study which may cause a departure from the spirit of the intervention?

That the target population were young people may account for an elevated tendency towards directiveness. Potentially, personal resources were perceived to be insufficient to engage in the intended manner. My sense is that there is an issue of style rather than substance here - Questions may be posed in different ways with young people but

similar issues were targeted and discussed in similar ways.

No other study of MI which has targeted more than one drug has been identified. Does this orientation make the acting out of an 'expert' role more likely? Whilst it may make role performance more demanding, and in this sense require a more proficient practitioner, I was satisfied that the content of the interaction was not adversely influenced.

In any case, it may well be that with different populations the balance struck between directiveness and client-centredness is superficially distinct. Upon reflection, what has taken place in this particular body of work has been an application of the basic method, consistent with MI philosophy and practice, as it is understood. Beyond this thesis, this will also be tested in peer review.

Where there is significant doubt, it may be preferable not to call the intervention MI, and instead use a looser formulation, such as 'based on MI'. However, there are already many examples of motivational interventions in the literature, which are not closely related to MI. My overall conclusion is that the term "brief motivational interview" is an appropriate description of the intervention that has been delivered.

3.4.2. An Ethical Note

For Miller (1995), the promotion of ambivalence resolution and change, must be rooted in the values and goals of the client, to avoid ethical problems. Whether and how activity

which can be constructed as being in some way manipulative, impinges upon the sovereignty of decision-making, is an overtly value laden issue. Rollnick et al. (1999) recognise how pervasive issues of power are to interventions of this type, and the need for the use of power to be considered in connection with ethical issues.

Beyond an argument conducted purely in ethical terms, attention to issues of power and manipulation may fruitfully be conducted at micro and macro levels. A micro-politics of MI, may be concerned with how power is used interactionally and potentially studied through observation. In relation to this, Rollnick et al. (1999) describe the importance of peer review and reflective practice. At a macro-political level, there are issues relating to the health promotion project to persuade addicted and other populations away from health compromising behaviours. These concern philosophies of health promotion, rather than MI per se, but do have implications for the practice of MI.

3.4.3. Personal Reflections

(See preliminary note at beginning of section 3.4.1) Motivational interviewing developed from the personal counselling style of Bill Miller. It would seem appropriate to set down some personal observations and reflections on the development and delivery of the intervention. Miller (2000b) identifies observation of, and listening carefully to, people with alcohol problems as strong and formative influences. I was thirty-three years old when delivering these interventions, and prior to fieldwork had little or no recent experience of conversation with older teenagers. On first visiting colleges, I felt a strong sense of estrangement. I didn't immediately feel 'old', but I did stop feeling in any way

'young'. I watched and listened a lot.

My initial attitude to motivational interviewing is perhaps best described as follows. I thought it contained some interesting observations on how to talk to people and provide help, with some useful do's and don'ts. I certainly did not regard myself as a committed adherent of the approach, but I was curious to see how it might work. Some time having elapsed since my last experience of counselling, I did not feel burdened with an existing or recent style that required modification. Having said this, it did seem largely compatible with the radical humanism, that was the theoretical underpinning of my previous counselling work with drug users (Howe, 1992).

I felt fairly confident that I understood the core elements of the approach, having been introduced to the basic principles and practice some years before. I was particularly concerned to make sure that I could use the techniques which were central to the intervention in a sophisticated fashion. Knowing that some of these techniques were similar to those used by sales people in everyday situations emboldened me to practise informally. In so doing, I took particular note of the power of seemingly simple means to manipulate conversations. I judged my success in these encounters by my capacity to retain the invisibility of methods being used and getting people to do what I wanted them to do.

I found the protocol straightforward to manage to a reasonable competence standard.

Two occasional difficulties were; a) having too much information to deal with (overload);

and; b) nothing much happening in the conversation (resistance). I was struck that the skills of the individual and the successful deployment of these really do matter. There appeared substantial discrepancies in the quality of my own delivery in relation to these difficulties and more generally. I used my sense of possibilities for impact or change as a key strategic decision factor in managing the conversation, at times it seemed, better than others.

I enjoyed delivering these interventions. Of more importance is that feedback confirms that the participants themselves enjoyed them. I think joking and 'having a laugh' was a powerful tool. Maybe this speaks to communication of positive regard, in line with what Miller has termed 'other-efficacy' (1999). One other area that Miller has recently speculated upon is acceptance (1999). This also strikes a chord with my own experience of talking to these young people. It appears to me quite possible that not trying to secure reduced drug use is the key to the success of so doing. Maybe with drug use among young people, it is all too easy to try too hard to secure change.

I was surprised how easily and openly participants were able to speak about their drug use and other personal matters. Rapport building did not need to be a prolonged exercise. I had somehow imagined that most participants would be precontemplators and was surprised at how prevalent and sophisticated ongoing cost-benefit thinking actually was. Drugs used most frequently tended to be the ones most discussed. In developing the intervention, a major decision was made to opt for a topic based rather than an assessment-based approach. I think that in practice participants successfully

used the topics to arrive at a kind of Check-Up for themselves.

CHAPTER 4: STUDY HYPOTHESES & DESIGN

4.1. Hypotheses

4.1.1. Primary Hypothesis

The primary hypothesis is that a brief motivational intervention will be efficacious in reducing drug-related risk among young people who use illegal drugs in contrast to a non-intervention control group.

4.1.2. Secondary Hypotheses

Risk reduction will be studied at two levels: 1. Actual changes in drug use. 2. Changes in psychological and interactional indicators of risk. These may be either; a) specific to the use of a particular drug or; b) to relate to drug use in general. Thus it is further hypothesised that:

1) Reductions in mean consumption of drugs and in levels of involvement will occur across the range of drugs used by the target population (tobacco, alcohol, cannabis, stimulant and other drugs), to a greater extent in the Intervention group versus the Control group.

2) Reductions in drug-specific risk indicators (decisions to cut down or stop use during the study period, future use intentions, importance, dependence, problem identification and interactional problems) will occur to a greater extent in the Intervention group versus the Control group for each drug or drug category.

3) Reductions in psychological indicators of risk in relation to drug use in general

(including decisions to cut down or stop the use of any drugs, stage of change, monitoring, satisfaction, enjoyment, attitudinal positivity, views on the safety of drugs, future intentions and general well-being) will occur to a greater extent in the Intervention group versus the Control group.

4) Reductions in interactional indicators of risk (involving interactional problems caused by drug use, educational and criminal justice harms, GP attendance, proximity to heroin and injecting drug use, drug selling and presence in drug-using environments) will occur to a greater extent in the Intervention group versus the Control group.

5) Reductions in drug use or related risk will occur equivalently for all within the Intervention group versus the Control group for selected outcomes.

In view of the breadth and number of experimental outcomes considered, a summative evaluation of accumulated evidence of intervention efficacy will also be undertaken, alongside study of mediators of selected effects, should they occur. In addition, non-experimental study will involve:

A) Study of the nature of drug use and risk among young people involved in illegal drug use as observed in a sample recruited in F.E. colleges.

B) Study of the relationship between intervention process components and selected

outcomes.

4.2 Study Design

A randomised design has been identified as most appropriate for the planned investigation. Consideration is given here to the basis of this selection and to issues relevant to application in the context of the present study. Examination of a range of study design issues in the remainder of this chapter precedes more detailed methodological discussion.

4.2.1. The Logic of Randomisation

The evaluation of the impact of an intervention requires that analytic primacy be given to the nature of the inference drawn about its effects. Cook & Campbell (1979) identified various criteria for causal inference to be made; covariation; temporal contiguity and sequence; elimination or control of other possible influences; and replicability. The research design associated with the highest quality causal inference is the randomised controlled trial (RCT). This has been identified as being fundamentally comparative in nature (Pocock, 1983). Analysis is driven by inspection of differences in outcomes of interest between experimental (or intervention) group and a control (or comparison) group.

The specific purpose of randomisation is used to ensure baseline equivalence between the two groups on all known and unknown factors which may possibly confound the causal or treatment effect under study. One investigator (Chalmers, 1998) has

described random allocation (to either group) as the "sole defining characteristic" of studies of this type. As well as confounding, chance variation and selection bias are also minimized by the use of randomisation. This prioritisation of causal or treatment effect has been termed as maximizing the internal validity of the study, where external validity refers to the generalisability of the results (Robson, 1993).

Two other distinctions commonly made in discussions of these priorities are the distinctions between explanatory and pragmatic trials and efficacy or effectiveness studies (Roland & Torgerson, 1998). The former term in each case is associated with giving precedence in study design to scrutiny of the casual inference or treatment effect, so that "ideal" conditions are sought. Replication of routine clinical conditions is associated with the latter terms where an attempt is made to evaluate anticipated or actual benefits rather than potential benefits.

4.2.2. The Quasi-Experimental Perspective

Where randomisation is not possible or desirable for whatever reasons, the term quasi-experimental design is used (Cook & Campbell, 1979). By this, the logic of experimental comparison is employed, whilst studying carefully the greater likelihood of confounding in the absence of randomisation. The impaired ability to rule out alternative explanations due to confounding, chance or bias restricts the confidence with which casual inferences can be produced. However, carefully designed quasi-experimental studies are generally thought to have the potential to arrive at causal inferences where threats to the validity of the inference have been systematically addressed (Cook &

Campbell, 1979). This is not the case with uncontrolled study designs. Longitudinal designs embracing examination of change in a study population following a treatment or other event have difficulty in attributing observed changes to that event as a result of history, maturation and a host of other challenges (Robson, 1993).

Systematic reviews have been undertaken in Britain in recent years in a number of related areas including alcohol and drug prevention and HIV prevention and sexual health interventions among young people (Oakley et al., 1995; Foxcroft et al., 1997; White & Pitts, 1998). These reviews emphasise the methodological inadequacy of much of the work undertaken, both in Britain and elsewhere.

"The poor quality of much research into the effectiveness of prevention efforts must be stressed." (Foxcroft et al., 1997)

In the drug prevention review (White & Pitts, 1998), for example, of 4876 studies located, 1486 were reviewed and only 62 met criteria for methodological adequacy, 90% of which were from the U.S. This is of particular concern when the criteria themselves, which have been used in all these British reviews do not appear to be very stringent. Derived from the principles of the Cochrane Collaboration (Oakley et al., 1995);

"sound studies were those which met the four criteria of employing randomly allocated control groups or control groups shown to be equivalent to the study groups before

intervention on sociodemographic characteristics and measures used as outcome variables; providing pre-intervention and postintervention data; and reporting on all outcomes"

This state of affairs, amongst other things, reflects genuine practical and ethical difficulties in applying randomisation in "real world" settings (Robson, 1993). Whilst randomisation and controlled comparison are intended for efficacy study, the potential for randomisation to run into difficulties makes it desirable for there to be familiarity with the interpretation of quasi-experimental designs (Cook & Campbell, 1979).

4.2.3. Cluster Randomised Trial Design

The Cluster Randomised Trial (CRT) Design involves a departure from the RCT design in one respect: clusters rather than individuals are randomised to conditions (Everitt & Pickles, 2000). It has been used recently in areas of health services research where randomisation at the individual level is not possible or desirable. For example, in evaluation of the effect of interventions, randomisation at the level of practitioner or organisational unit may be used. Where there is variation in the implementation of an intervention between practitioners, it would be expected that individual outcomes would be influenced by a cluster effect (those receiving the intervention from the same practitioner would tend to have similar outcomes to each other). Where this is the case, the cluster as the unit of analysis may be more appropriate, with a consequent reduction in statistical power. It may nonetheless be desirable to study individual outcomes and this can be achieved when the effect of clustering is evaluated and controlled.

In the context of this study, recruitment and allocation of individuals without contamination between individuals within pre-existing clusters was thought to be very unlikely (see next chapter). Sampling considerations will be elaborated in the next chapter. Note shall only be made here that a CRT was preferred to an RCT because recruitment methods involved accessing clustered networks of young people.

The above note on the effect of clustering represents one threat to a valid inference being made about intervention efficacy. Cook & Campbell (1979) identify this type of problem as being a threat to statistical conclusion validity. Other types discussed by them are threats to internal, construct and external validity. They suggest that randomised designs, like any research designs, have the potential to go wrong or to encounter unexpected difficulties. Randomisation does not rule out all threats to valid inference, nor does it guarantee post-intervention comparability. Consideration of these threats offers a useful perspective for study design and the anticipation of potential threats to validity is a core component of rigorous study design.

In the present study, the CRT design departs from the ideal of randomisation in the lack of equivalence between sampling and analytic units. This involves a smaller number of units being randomised, with an increased probability of chance affecting the success of randomisation. This presents a problem to valid inference when there exist systematic differences between groups on known or unknown variables which affect outcome.

4.3 Specific Design Issues

4.3.1. The Appropriate Control Condition

In most clinical trials, new interventions are compared against placebos (if this is ethically and practically feasible) or against existing treatments to test whether additional benefits are gained (Pocock, 1983). In the area of drug prevention research under study, there is no existing standardised intervention with which a trial intervention can be compared. In part, this results from the relative recency of the study and application of drug prevention intervention research.

Placebo comparison is hypothetically feasible, but difficult to implement. Interventions targeting teenage drug users other than help seekers have been largely informational in character. These are not known to have been scientifically evaluated. It was thus not known at the outset of the study whether any intervention was efficacious with the target population nor what may serve as an appropriate placebo intervention. Given these factors, a non-intervention controlled comparison was decided.

For the control group not in receipt of dedicated study intervention, they may also be characterised as education-as-usual i.e. in light of the setting in which participants are recruited (see chapter 6), almost all are in receipt of education, some of which may contain material on drug use.

4.3.2. Formal Inclusion & Exclusion Criteria

The inclusion and exclusion criteria are identifiable in the screening instrument located

in the peer interviewer manual in appendix 3. The basic inclusion criteria are; 16 - 19 years old; used cannabis within the last month; on at least two separate occasions within the last three months used amphetamines, ecstasy or powder cocaine; and who formally consent to participate in the study.

The exclusion criteria have been selected as characteristics which might interfere with investigation of the effect of intervention or those which are not widely distributed within the target population of young drug users. They are as follows; ever used heroin, methadone, crack cocaine, any drug by injection or attended a drug or addiction service; any history of mental health problems or learning disabilities requiring specialist healthcare; any history of homelessness, or local authority care or accommodation; currently pregnant or expecting to go into hospital during study period.

The frequency of drug use inclusion criteria may appear low. There are two reasons for these thresholds: 1) The scant epidemiological evidence base on patterns of drug use within this age group suggests that for many the use of illicit drugs, whilst regular, is largely not very frequent, particularly at younger ages. 2) Regression to the mean is a threat to statistical conclusion validity when groups are defined in these ways.

Initial difficulties in recruitment which led to changes in these criteria are described in chapter 6. The changes made involved; a) weekly cannabis use alone (without other illicit drug use) being sufficient for inclusion; b) the exclusion criteria being set aside with the exception of opiate and injecting drug use; c) the upper age limit being extended

from 19 to 20 years old.

4.3.3. Statistical Power Consideration

There are a number of difficulties inherent in this study in the wish to base the decision on sample size solely on statistical power calculation. They may be summarised as follows: 1. The novelty of preventive intervention study with this population means that there are only limited data on which to base calculations. 2. The requirement to identify outcomes and potential benefits broadly as befitting an exploratory study of an intervention of this nature. 3. The uncertain nature of cluster effect resulting from the chosen study design. 4. Resource, time and practical constraints on study size and operation. Nonetheless, illustrative power calculations were made using dedicated software (Fleiss, 1981).

Assumptions made for the purposes of calculation were that; a) the anticipated intervention effect produces a risk ratio of 50% (odds ratio 41%), so that hypothesised risk reduction is observable in 30% of the intervention group, compared to 15% in the control group; b) there will be a loss to follow-up of 18%. According to Fleiss (1981) a sample size of 100 in each group is sufficient to produce 80% power at 80% confidence according to these assumptions. Alternatively, with very little drop out i.e. 8 from each group, 60% risk reduction in the intervention group compared to 40% in the control group requires 125 in each group to deliver 90% power with 90% confidence.

These estimates (which additionally assume no intra-cluster correlation) were

considered along with practicalities and statistical advice was taken. This resulted in a decision to seek to recruit 200 participants, with approximately 100 to be allocated to each group.

4.3.4. Determination of Length of Follow-up

As well as brief interventions varying substantially in terms of time and number of sessions, there is no consensus on or standardisation of follow-up intervals to be employed (Bien et al., 1993a). Multiple follow-ups are not uncommon, often involving short and long term components. Initial follow-ups usually occur somewhere between one-week, one-month and three-months after intervention. Longer term follow-ups usually occur at six, nine or twelve-month intervals (though some even later). Where a single follow-up assessment takes place, more commonly in studies of drinkers than smokers, it does so most often at the six-month interval. Longer term follow-ups are generally associated with more extensive interventions. Saunders et al. (1995) and Baker et al. (1994) used three and six-month intervals, with the clinic attenders also receiving a one-week follow-up. Both these evaluations were of similar intensity, one session and one hour duration, to the intervention under study in this thesis.

A recurrent finding in the literature, highlighted by Bien et al. (1993a), is reactivity to assessment, including to earlier follow-up assessments. Indeed, the seminal study by Russell et al. (1979) found 44% of all those not smoking at one year to have given up in the month immediately preceding this interval. Other data in this study suggested that the intervention motivated smokers to give up only up to four months after intervention.

The problems of separating the effects of intervention and assessment led Bien et al. (1993a) to call for the use of Solomon 4 group designs, which incorporate unassessed controls to measure the distinct effects of both.

This has been rejected in this study on the basis of an unacceptable loss of statistical power that it would entail. As a result of these considerations, a single follow-up assessment at a relatively early time was decided upon, which allowed greater concentration of effort and time resources on achieving as high a follow-up rate as possible (thereby increasing further the generalisability of any resulting observations). If any important effect was observed at this single interval, then this could separately be further investigated at a later point. If no effect was observed, providing the interval has been well chosen, there would be no reason to expect an effect to be revealed at a later time-point.

The longevity of the intended effect is difficult to predict on the basis of studies in other populations. It was considered likely that it could generally be expected to decline over time. The absence of effective intervention and the huge costs attaching to the long term public health burden make the detection of any effect extremely desirable. The optimal time for detection was presumed to be quite shortly after intervention. This must be weighed against considerations pertaining to the potential replication of any effect.

Institutional and practical issues, relating to retention for example, are raised by the siting of the study within the setting chosen (see chapter 5). Follow-up within the same academic year was deemed to be extremely desirable. Having considered these issues,

a three-month interval was chosen for follow-up assessment of impact.

4.3.5. Evaluation of Outcomes

In light of earlier discussion on the nature of the intervention and its objectives (chapter 3), attention will now be given to appropriate evaluation criteria. Outcomes should be selected according to the needs of the study and the particular question it is trying to answer (Roland & Torgerson, 1998). Multiple outcomes are thus appropriate for study.

Since there are many outcomes to be studied, there is consequently the possibility that chance may account for an observed difference between the groups. Statistical adjustments are possible for such multiple testing, but these have been criticised as being excessively conservative (Pocock, 1998). An alternative way of dealing with this issue is to simply acknowledge this possibility and to interpret individual findings in the context of the findings as a whole. This approach shall be taken as it is deemed preferable to identify potential effects than to miss them in an exploratory intervention study of this type.

Although the intervention will be comprehensive in its consideration of the range of drugs of use, it is expected that particular drugs or aspects of use will be the focus of change attention, among the individuals where this occurs. One possibility would be to construct a summary measure which embraces involvement across drugs. Limited aetiological data on the relationship between the ongoing use of different drugs, and how this changes over time also suggest that a "separate drug model" is appropriate for

evaluation (Dwyer & MacKinnon, 1991). By this it is meant that change in the use of each drug should be considered as distinct outcomes.

It was deemed desirable that outcomes should be as simple as possible and that measures have as obvious and uncontested relationships to recognised features of risk, as possible. It is intended that construct validity threats will be minimised in this way. One consequence of the approach taken is that an exhaustive assessment of all potential effects is not attempted. The possibility exists in particular that the omission of less easily measurable outcomes will constitute a threat of bias.

Where outcomes measures are not reliable, standard errors are inflated and the possibility of detecting real effects is diminished. In the present case the reliability of many outcome measures is unknown. If differences between the groups are observed, some measure of reliability can be inferred. Where the opposite is true, it may not be possible to state definitively whether unreliability or the absence of an effect accounts for this.

Another influence on the analysis of outcomes for evaluation is the constraints that need to be placed upon pre-intervention assessment, in light of the potential for this to confound the study of the intervention effect. Baseline measurement is required to be brief and minimally intrusive and take a form as distinct as possible from the intervention itself. Differentiation of outcomes is required to distinguish those for which it is more desirable to obtain before and after measures, from those where post-intervention

assessment will suffice.

4.3.6. Sampling & Recruitment

How the study population came to be recruited for this intervention study involved consideration of sampling. It was intended that this would facilitate scrutiny of generalisability and potential applicability of the intervention in the event of efficacy. This in part stems from the intervention having a preventive and public health orientation. In terms of the discussion by Cook & Campbell (1979) on this matter, it should be made clear that attention to external validity does not in any way jeopardise the priority given to internal validity. The defined target population could potentially be recruited in various settings using various recruitment methods. The concern for generalisability was found to be a major influence on final selection of the sampling method and to be closely inter-related to setting and recruitment decisions.

The intervention studies reviewed in Chapter 2 are generally located in treatment services, general practice and other settings conducive to recruitment and delivery of intervention. Randomisation is usually used to ensure the equivalence of groups for comparison, and within identified study population characteristics, willingness to receive intervention in the setting studied describe the parameters of external validity. As a consequence, the applicability of results to populations beyond the setting studied is usually unknown. The representativeness of participants in studies of brief interventions in general practice has been found to be potentially problematic (Edwards & Rollnick, 1997).This situation contrasts sharply with areas of study where sampling and

representativeness are crucial to the capacity to answer the question investigated e.g. in prevalence studies.

Some brief intervention studies, for example Wallace et al. (1988), and Marlatt et al. (1998), have targeted general populations, screened for high-risk status and randomised participants to study conditions thereafter. This arises from an explicit intention to study the scale of potential benefit in public health terms. Despite this, the study by Wallace et al. was among those about which representativeness concerns were established by Edwards & Rollnick (1997). In addition to large numbers being lost at different stages of these studies, concerns also related to untypical motivations for study participation, among both practitioners and patients.

Straightforward probabilistic sampling was rejected for the present study partly on grounds of possible scale and costs involved. Additionally, as such a method is not known to have been used for recruitment of young people who are drug users to intervention study of any type, the implications of response bias were seen to be potentially problematic.

There are also intrinsic difficulties to establishing the representativeness of samples drawn from 'hidden' populations i.e. resulting from the absence of a sampling frame. Nonetheless, comparison with data obtained from other samples, both probablistically and otherwise, is possible. This permits an aspiration to achieve as representative a sample as possible, and to evaluate the extent of success in so doing. This logically

leads to consideration of which non-probability methods may be available and appropriate which can deliver as representative a study sample as possible.

The success of convenience, intercept or site sampling in delivering a representative study population may be expected to be determined by the recruitment method and setting chosen. These methods have been used to good effect to obtain samples of drug users from non-clinical populations (Reilly et al., 1995). The requirements not just to provide data upon intercept, but also to secure consent to enter an intervention study, to participate in arrangements for ongoing contact, to actually receive an intervention and to provide follow-up data, were thought to be potentially problematic.

Quota or targeted sampling either combined with any of the previous methods or utilising any other, has been used extensively in the wake of HIV transmission among injecting drug users, particularly in the U.S. (for example, Watters & Biernacki, 1989). Again, whilst achieving considerable success in reaching non-clinical populations of drug users, these techniques are problematic in the present context for the reasons just described. They are additionally constrained by the limited data available on the target population.

Snowball sampling is an alternative approach. This involves an ongoing process of onward referral whereby respondents nominate and introduce to researchers other respondents for study recruitment (Hartnoll et al., 1997). Interestingly, snowball sampling can be employed in ways which allow elements of randomisation. For

example, taking proportions of nominations at random or at fixed intervals, rather than pursuing every nomination introduces an element of random selection. Random selection of zero stages or starting points for snowball samples has been demonstrated to achieve representative samples which allow reliable prevalence estimation. This has led to the description of there being "more complex" random sampling methods than simple i.e. probablistic sampling (Hartnoll et al., 1997).

This method assumes the behaviour in question to be distributed in social networks. For an isolated behaviour there exists no logic to snowball sampling. It follows that the nature of the social networks must be considered prior to the utilisation of this method, as should their suitability for the research questions under investigation. There are some practical problems attendant upon the use of snowball sampling as a method of recruitment for the present study. These were held to be of a magnitude which precludes the use of this technique as a principal recruitment method.

Almost by definition, uncertainty exists in accessing hidden populations as to the nature of social networks successfully penetrated. Besides the investment of time spent gaining trust and communicating via networks of friends of friends, it will usually be impossible to predict within any confidence the numbers who may be recruited starting from any particular individual. Allocation to groups, the logistics of successive contacts for screening, consent and initial data collection, intervention delivery and post-intervention data collection are likely to be problematic. These techniques have been most often used by ethnographers and other qualitative researchers who require much

smaller sample sizes and who may be less concerned with representativeness.

One response to these problems, which has been developed with different populations of drug users is the use of privileged access interviewing (Griffiths et al., 1993). Privileged Access Interviewing (PAI) was developed by drug researchers interested in epidemiological questions. At its core, is the employment and training of individuals with access to the target population. Of particular relevance for the present study is the capacity to recruit large numbers in short timescales and in repeated measures designs (Griffiths et al., 1993). It assumes that the population under study is fragmented, existing not in a single network or culture and thus requires multiple and diverse points of access. It was not known to have been used for intervention study recruitment. It differs from snowball sampling in that onward referral may or may not play a role in the use of this method.

Members of the target population, or their peers, may be employed in this role, as may be health and other professionals. Power (1994; 1995) used the term "indigenous fieldworker" to convey the potential variety of roles that may be undertaken by a drug user. Flexibility in use of the technique in light of study objectives was described in the original formulation and its evaluation was conducted on the basis of the demands of the study itself (Griffiths et al., 1993).

4.3.7. Setting

A shortlist of possible settings for the study was drawn up and comprised; youth

clubs/services; general practice; further education colleges; drug using locations directly in the form of nightclubs; within the criminal justice system; and on housing estates including via community centres. Each possibility was weighed against; practical issues bearing upon successful recruitment and related matters; the requirement to conduct the study in an environment conducive to study group allocation and retention, as well as intervention delivery; and the aspiration to draw as representative a sample as possible. Following this process, further education colleges were decided upon.

Local authority youth services whilst containing obvious potential for access to the target group, were assessed as lacking uniformity of provision, often being of insufficient scale to allow practical recruitment of the numbers required, and there being some difficulties anticipated in receiving formal permissions. Although having good access potential, general practice was not viewed as a fruitful setting for the identification of privileged access interviewers (PAIs). Nightclubs, again offering large scale access to the target group and potential candidates for PAIs, was deemed to be an unreliable environment for the making of arrangements of the type required by the study.

The criminal justice system was seen to be burdened with drug problems of types other than that targeted by this initiative. Housing estates, and community work projects therein, were expected to require extensive networking and liaison with health & welfare professionals and local people to identify sufficient numbers of PAIs. Combinations of various of these options was felt to be likely to be inefficient in terms of time and resources.

Further education colleges, whilst not ideal environments, offered many advantages when compared to the other possibilities. More than three-quarters of all sixteen year olds continue in full time education, the majority of whom attend further education colleges (Social Trends, 2001). Additionally, a substantial proportion of the remaining quarter, through modern apprenticeships and other training schemes, attend colleges typically for one day a week. More 16-19 year olds are in the further education sector, than are in schools, other training or employment. This affords good access to large numbers of young people. Involvement in post-16 education has been promoted as a central element of recent youth policy (Coles, 2000).

Students are enrolled for academic year or twelve month periods which potentially supports study retention. Large numbers within individual college sites and the existence of multiple sites make allocation to conditions less likely to be compromised by contamination. Geographically widespread, possibilities exist for targeting institutions in areas of deprivation and of ethnic diversity. Subject choices are in some cases highly gendered, allowing a degree of gender targeting. There appeared little reason to expect that sufficient numbers of the target population could not be recruited in this setting.

Uniformity of provision allows a common approach to be developed for all targeted institutions and efficient management of practicalities. Timetables typically contain much self-directed study or 'free' time and rooms can be provided for the purposes of interviewing. The educational environment itself is appropriate for the delivery of the

intervention being tested and as a result of this and other advantages, colleges offer long term possibilities for hosting interventions of this type. They are not known to have been employed in studies of this type in this country, though other post-compulsory educational settings have hosted similar intervention studies elsewhere (Marlatt et al., 1998).

Preliminary enquiries suggested that the social networks of students lay largely beyond the college. Most students attended college for no more than two years. Although some knew quite a few other students before college, from previous schools or neighbourhoods, most did not. Staff reported that for most students the beginning of each year represented the beginning of new friendships for those not continuing courses. In most colleges, small groups of cannabis smokers were visible to staff. Direct knowledge of other drug use by students only emerged from occasional drug-related incidents on the premises.

The possibility of staff acting as PAIs was considered and rejected (although four part-time staff members in youth work or similar roles who were also students were subsequently employed). It was thought unlikely that staff would perceived by the target population to be in a position to recruit participants without significant response bias. It was decided instead that PAIs should be current students, who may or may not be members of the target population themselves. Staff were used to promote the project within the college among students and to identify potential candidates for the PAI role. Colleges were requested to make available a staff member for this purpose. In the

event, two types of staff contacts, as they were known, were nominated; youth workers or advice/counselling/guidance workers.

CHAPTER 5: METHODS

5.1 Early Fieldwork and Recruitment

5.1.1. Negotiating Access

Eighteen colleges were identified within a geographical area deemed to be easily and quickly accessible from central London by public transport (travel zones 1 - 3). An initial letter of invitation to express interest in participation in the study was addressed to each principal. This was followed up by a round of telephone calls to establish interest. Of the 18 colleges approached, one proved ineligible, having few students in the required age range, and one declined any interest in participation without giving any reasons.

The 16 remaining colleges were subsequently mailed guidance for staff contacts (appendix 4) and a summary of the project proposal (appendix 5). The latter included the following sections; a study overview; background to and rationale for the study; benefits to the college arising out of study participation; role of the staff contact; role of the peer interviewer; and timetable. These were addressed to either or both, a senior manager responsible for the college's response, and/or a staff contact nominated for liaison following this suggestion being made in the initial letter.

Two further colleges declined to participate at this stage: The first said that they would like to be involved but major renovation of the main site inhibited their capacity for collaborative work. The other college took the view that the project condoned drug use and did not want to be involved.

Following these contacts, further discussions took place, usually face to face during a visit to the college, or occasionally by telephone, which established college participation and addressed practical issues. Of the remaining 14 colleges, the two that were slowest to make required arrangements were nominated as reserves, with recruitment activity planned for 12 colleges.

5.1.2. Planned Identification & Training of PAIs

It had been decided that piloting recruitment procedures in the later part of the previous year would involve a very different situation in terms of student relationships with each other and with staff, so this was not pursued. Instead it was decided to initiate recruitment activity as early as practically possible in the year available. Difficulties were expected and it was agreed that a variety of methods to identify and recruit PAIs, appropriate for local circumstances, would be pursued.

It was suggested that the staff contacts should speak to formal groups, small informal groups or individuals with whom they were in contact about the project and the possibility of becoming a PAI. The use of stalls or advertisement via college media was also agreed. Staff were encouraged to be particularly concerned to identify female students and ethnic minority students as potential PAIs to promote participation.

Responsibility for recruitment of the actual study participants was to be entirely invested in the PAIs. The selection of suitable individuals was thus key to the successful conduct of the project. Following nomination by staff contacts, informal interviews were held with

those interested. These discussions concentrated on the drug using nature of the peer networks individuals had access to. Other selection criteria were; capacity to relate to peers in the manner required by the project; interest in learning and willingness to be trained; no difficulty in making and keeping necessary commitments.

Potentially suitable individuals were then to be tested by being given a week to complete an "interview" similar to that required by the project, which was subsequently discussed with them. It was made clear that no assumptions could be made about the drug using status of PAIs as the selection requirement related to access not membership of the target population.

5.1.3. Difficulties Encountered in PAI Identification & Revision of Inclusion and Exclusion Criteria

The identification and recruitment of PAIs proved to be much more difficult than expected. Staff were posted materials and invited to initiate activity a few weeks after the beginning of term. Pressures of other commitments were cited as reasons for not beginning this activity. Most staff contacts did not actually begin seeking to recruit PAIs until more than one month after the intended start date.

Once began, difficulties were reported by most in 'selling' the idea to students. Amongst those that succeeded in identifying interested students, some of these students themselves were uncertain of their capacity to recruit many peers who would be eligible for participation. These difficulties were resolved in two ways:

1. Better support arrangements were made for staff contacts. For example, difficulties and potential solutions were talked through in person rather than by phone.

2. The PAI role was simplified in response to feedback, by omitting the administration of the formal screening tool, and relatedly by changing the definition of inclusion/exclusion criteria. The former change was necessitated by discomfort in asking the intended screening questions of potential participants. Also whilst there was widespread awareness of cannabis use among peers, uncertainty about other drug use was usual. The latter change involved much deliberation on methodological and broader study issues. It was decided that sufficient numbers of a 'new' target population was preferable to smaller numbers fulfilling the planned criteria.

Simplified inclusion and exclusion criteria were determined as follows: In terms of drug use inclusion, weekly cannabis use was added to the existing criteria. The range of exclusion criteria questions were omitted altogether, with only opiate or injecting drug users to be informed later that they were ineligible for participation (it transpired that 5 were 'rejected' for heroin use in this way). Finally, one other change was made at this point; the upper age limit was extended to allow 20 year olds to be recruited.

5.1.4. Training & the Role of the PAI

Once two PAIs had been recruited from within a college, a meeting for training was arranged. The content took the form of discussion of material prepared in a training

manual. This included information on; study background; outlines of the tasks associated with the role and the study process generally; directions on recruitment and screening; the importance of honest, complete and reliable responses and the right of participants to refuse to answer particular questions or withdraw at any time; data collection details; confidentiality; interviewing basics; and suggestions for learning opportunities and other benefits (appendix 3).

A basic contract was signed at the end of the session, the PAI having been given the opportunity to decide against proceeding with the study, though none did so (in appendix 3). Discussions with colleagues with prior experience of working with PAIs suggested that interest in the subject area and commitment to the aims of the project was central to conscientious role performance. These training sessions were used to enhance motivation in PAIs.

Following their own recruitment and training, the PAIs initiated conversations with their peers about participation in the project. Whilst strangers were not to be approached, they were encouraged to recruit from as many groups of peers as they felt comfortable. The study was described and consent to participate was obtained. The consent form (in appendix 3) was required to be signed but not necessarily with a formal name, and this followed a description of project involvement along the lines laid down in the PAI guidance manual. Those declining to participate were asked for the reasons for their decision which was to be recorded in the PAI manual. Screening for eligibility was undertaken verbally rather than via the originally intended checklist. The PAI then

distributed to those who met the inclusion criteria a self-completion questionnaire and envelope within which to seal it.

Participants were to be given one week for the completion of this and were encouraged to answer every question honestly (or explicitly refuse particular questions rather than providing false information) and seek the assistance of the PAI as required. For those who preferred (including those with difficulties with self-completion), it was advised that the questionnaire could be completed by or in the presence of the PAI. Otherwise it was suggested that it be completed while alone and in a quiet place. They were also informed that they would be asked again for any information that was not provided. It was stressed that the information provided on the questionnaire was confidential and wouldn't thereafter be shared with the PAI, if this had not already taken place, as it was to be enclosed in a sealed envelope.

5.1.5. Allocation & Other Procedures

Allocation of individuals to intervention and control groups without contamination is unlikely when study participants have been recruited via peer networks. Random allocation of clusters was instead undertaken. A cluster was formed by all those recruited by an individual PAI.

To avail of the potential of multi-site recruitment and to control the effect of localised drug using patterns, cluster randomisation was stratified by college. It was intended that 2 PAIs would be recruited in each college, so that one cluster would be allocated to

each condition. It was anticipated that PAI recruitment would not be successful in all colleges, so initial attempts were made in 12 colleges in the expectation that recruitment would fail in two colleges. A target of 10 participants per PAI was set which notionally allowed approximately equivalent numbers to be allocated to each condition. This meant that the target for each college was to provide 10 participants to each condition on average.

The randomisation procedure involved allocation decisions being made by an academic colleague within the University who was not otherwise associated with the project. He constructed a random table of college stratified decisions. Following PAI training and the distribution of recruitment materials, an arrangement was made to return to the college, usually around one week later. Immediately prior to this visit the colleague was contacted for allocation decisions. The intention of this procedure was to prevent any prior awareness of the allocation decision biasing my dealings with PAIs.

5.1.6. Recruitment Data

PAIs generally recruited less than targeted numbers of study participants. Thirty-two clusters (rather than the projected 20) were required to recruit 200 participants. As anticipated, recruitment was not successfully initiated in two colleges and was discontinued. PAIs recruited a mean of 7 participants, with a range of 2- 12, with the exception of one PAI who recruited 19. This unevenness in the size of the clusters resulted in 105 subjects being allocated to intervention and 95 to the control condition. In ten cases, recruitment difficulties led to totals of 5 or less per cluster. In four cases

(three intervention, one control) recruitment via PAI failed and direct recruitment by researcher (myself) was undertaken in informal areas under the guidance of college staff.

Around half the PAIs recruited at or near the targeted numbers of participants. As well as difficulties in recruitment, the systematic collection of response/refusal, eligibility and contact data was initially problematic. When PAIs were questioned by telephone after the end of the fieldwork, accreditation and educational validation of these activities, were viewed as most likely to improve role performance.

COLLEGE	No. of PAIs	No. of Participants
CITY & ISLINGTON	4	32
CITY OF WESTMINSTER	3	8
NORTH-WEST LONDON	2	15
HACKNEY	4	25
KINGSWAY	6	36
LAMBETH	3	26
LEWISHAM	3	8
NEWHAM	3	14
SOUTH THAMES	2	23
WOOLWICH	2	13
Total	32	200

N.B. Not all participants recruited at each college were students of that college. Some were students elsewhere, and 11 were non-students.

5.2 Data Collection

5.2.1. Data Collection Methods Used

The concern to minimise similarities between pre-intervention assessment and the intervention itself (Bien et al., 1993a) was an important determinant of the decision to opt for a data collection method which did not involve direct contact with the researcher. The chosen recruitment strategy afforded the possibility of peer administration as an alternative to self-completion. In either course, and in light of the concern to minimise reactivity to assessment, a brief instrument which was also simple to complete was deemed desirable. This was thought necessary because it was anticipated that there may be literacy problems among some participants.

In view of potential skills limitations among PAIs and a desire to avoid further extending the role, a self-completion mode was decided upon, with assistance available from PAIs for those requiring it. Specific guidance on how help should be given was included in the training manual (appendix 3). It was intended that completion of the baseline instrument should not generally exceed 20 minutes.

Post-intervention assessment was undertaken by researcher-administered standardised interview. This was largely informed by a concern to ensure an optimal follow-up rate and completeness of data. Face-to-face contact was also necessary to allow an opportunity for the collection of a hair sample (see later) and for the payment of expenses for participation.

This difference in data collection methods before and after intervention entails the possibility that different forms of bias are applicable at each point. This is particularly pertinent to the assessment of change over time where a before and after comparison is the primary mode of analysis. This was not thought to bias the evaluation of the intervention effect as both groups were being treated in the same way. An additional factor considered was the possibility of bias resulting from the researcher delivering the intervention also administering follow-up interviews. To assess this potential source of bias, a second researcher who was blind to study condition was employed. It was further arranged that the majority of these interviews would be with intervention recipients.

Recent years have seen a move towards manualised interventions (for example, Miller et al., 1992). The rationale centrally involves an attempt to ensure quality and consistency/fidelity in the delivery of interventions under investigation and permits attention to what actually takes place during an intervention. Allied innovations include direct observation or audio or video recording of sessions. Practical constraints prevented recording, so it was decided to collect data on the conduct of the intervention with paper and pencil, during and after completion of the session. It was recognised that attempts by the author (deliverer of the intervention) to identify elements of interaction (as well as to gauge their significance) was potentially problematic. Participant-rated process measures were thought to be desirable but proved difficult to develop. It was decided to restrict data collection directly from intervention recipients to feedback.

The study hypotheses defined the data to be collected. Final decisions about the specific content of hypotheses were made following piloting and literature review. As a result of the constraints on the length and nature of pre-intervention assessment, priorities for data collection had to be determined. This involved decisions being made to collect outcome data in one of three ways: 1. Repeat measures before and after. 2. After with a brief baseline control measure for comparison. 3. After only, without any baseline comparison. In addition to outcome data, there were a wide range of potential confounders thought potentially relevant to study of the intervention. These were largely collected post-intervention, the main exception being brief personal data which it was considered desirable to collect prior to intervention, as a safeguard against, or at least as a means of gauging the nature of, possible later loss to follow-up.

In addition to the data outlined in the next sections, PAIs were asked to collect data on various aspects of their functions, using the relevant sections of the training manual (appendix 3). Finally, feedback on the project as a whole was sought from PAIs and staff contacts after the end of the fieldwork via a brief telephone interview .

5.2.2. Piloting

In developing outcome measures, whilst there were opportunities to use or adapt existing measures, it was also necessary to develop new measures. The literature on adolescent assessment instruments comprises treatment oriented screening tools or comprehensive assessment packages (Winters & Schinfield, 1995; Meyers et al., 1999). The requirement here to make a brief multi-drug assessment precluded the use of these

screening instruments which ranged from 10-60 items per drug. This largely North American literature was considered in relation to specific outcome measures. The content of many of the measures were judged to be unsuitable in relation to the intervention under study, and also in relation to this setting and population context.

Following consideration of potential measures, care was taken with piloting to ensure that measures were as simple as possible, culturally appropriate and in line with the needs of the study. An F.E. college just outside the targeted geographical area was approached and agreed to host pilot work.

Piloting took two main forms; individual interviews and group exercises in questionnaire completion. Individual interviews took place with students who were eligible for participation in the study. Students were asked to complete draft baseline questionnaires in the presence of the researcher. They were encouraged to ask for help as required. Their responses were then discussed to identify difficulties in understanding and responding to particular questions. In some cases, the intervention was then delivered and the feedback questionnaire completed. In these instances, the process measure was also completed and gradually refined. The follow-up interview was administered to other students individually.

Tutors also agreed to supervise the completion of questionnaires in classroom settings. They were briefed in accordance with training for PAIs (appendix 3) and collected and returned completed questionnaires. These exercises took place in pre-existing groups

and thus involved both those eligible and ineligible for study participation. Those ineligible were largely uninvolved in illegal drug use.

In both piloting contexts, respondents were invited to comment on particular questions and on the instrument as a whole. These piloting exercises proved to be very helpful. Not only were the precise form of questions finalised, but also decisions were made to exclude questions and to shorten the length of the instruments. The instruments themselves are included as appendices and are labelled as follows (pre-intervention, appendix 6; follow-up, appendix 7; feedback, appendix 8; process, appendix 9)

5.3 Outcomes

5.3.1. Drug Use Outcomes

The capacity to identify initiation, cessation and changes in level of consumption during the study period was integral to the assessment of the effect of the intervention on drug use. A similar structure was thought to be desirable for each drug, though it was expected that specific use categories would vary.

Goddard & Higgins (1999) observed that 11-15 year olds cross sectional reports underestimated their usual level of cigarette smoking when compared with a one week diary. Although quantities consumed are standardised in the form of cigarettes, these may be shared, particularly among younger children. It is also known from this series of surveys that occasional smoking is a widespread and volatile phenomenon at these ages, but stabilises in the later teens (Goddard, 1990). In the broader 16-24 age band approximately 14% of smokers smoke less than 10 cigarettes per day (ONS, 2000).

The national schools survey of 11-15 year olds asks about both usual and recent drinking behaviour and has found these data to be broadly consistent (Goddard & Higgins, 1999). Drinking among young people is known to be relatively infrequent, but to involve larger amounts of alcohol than older adults (ONS, 2000). Settled regular drinking patterns are relatively rare and the achievement of regular weekly drinking taken as a milestone in alcohol involvement (Parker et al., 1998a). Drinking in the previous week is a commonly used interval in which to assess recent drinking via quantity/frequency (for example in Goddard & Higgins, 1999).

In relation to illegal drug use, the adequacy of past month measures for the identification of regular users has been questioned (Parker et al., 1998; Measham et al., 2001). Ninety-day or three month periods have been used in relation to a wide range of illegal drugs to more closely measure extent of involvement (Marsden et al., 1998; Stephens et al., 2000). These approaches quantify the number of days on which a particular drug has been used.

However this is problematic in relation to heavy cannabis use or other drugs for which it is desirable to differentiate extent of use on a given day. Cannabis use does not occur in standardised quantities, nor potencies, and often occurs in groups, where smoking is shared. Quantity/frequency measurement is rare for these reasons. As a result of difficulties of these types, frequency of use is often used to measure consumption (Robertson et al., 1996; Lang et al., 2000) although this is not entirely satisfactory. Following the modification of inclusion and exclusion criteria, it was thought desirable to add measures to the follow-up instrument to further investigate cannabis use. Questions on usual quantity and days of use within the past month were thus added.

5.3.2. Reliability of Self-Reported Drug Use

In addition to the difficulties attendant upon measurement of drug use, the reliability of self-reports of these data required consideration. The literature on the reliability and validity of self-report data on drug use has accumulated in recent decades. Darke (1998) concluded that self-reported drug use was generally consistent with biological

data and collateral interviews. Harrison (1995) concluded that valid self-report was determined by the recency of drug use episodes, the social desirability of the drug and care taken in data collection.

The purpose, format and context of data collection (see also Finch & Strang, 1998) are all understood to be relevant to achieved validity and various procedures to increase honest self-reporting are recommended. Assurances of anonymity and confidentiality, good quality information on the study, emphasis on the importance of accurate data and rights to refuse questions, along with self-administration constitute good practice in this area (Harrison, 1995).

The reliability of young people's self-report data in drug use surveys is specifically considered by Oetting & Beauvais (1990) and Harrison (1995). Both agree that there are no particular grounds for concern in this regard which are specific to age. Goddard & Higgins (1999) report on the effect of saliva testing throughout the 1990s on cigarette smoking prevalence reports in the national survey of 11-15 year olds. Whilst in some years, saliva testing appears to increase reports of smoking, in other years it appears that it does not.

Werch et al (1989) investigated the effect of a "bogus pipeline" procedure on reports of various types of drug use and related data among students. They observed that there were no effects on reported use of a range of legal and illegal drugs and other data with one exception: Reported heavy cigarette smoking increased where the experimenter

verbally persuaded the subject that their data would be verified by an objective measure following saliva test.

Various methods were used to encourage reliable self-report data, drawn either from other brief intervention studies or research with young drug users. Experience of the use of a fictional "dummy" drug provides another reliability check commonly used in prevalence studies (for example, in the British Crime Survey). One, "Semeron", was included in the follow-up instrument (which no-one claimed to have ever used). PAIs themselves signed a contract and were requested to record any doubts they had about the reliability of data. PAIs were also instructed to emphasise the importance of honesty and the preference for refusal to answer questions above dishonest answers, as did printed study information.

Formal consent from the study participants was obtained at study entry for the collection of hair samples fro drug testing (even though it was not intended to pursue this, unknown to PAIs). This is somewhat analogous to the "bogus pipeline" approach and the use of an alcohol dipstick in the WHO cross-national brief intervention in primary care study (Babor & Grant, 1992) to encourage reliability. Lastly, the use of two follow-up interviewers allowed assessment of interviewer effects and the reliability of data collected.

5.3.3. Other Outcome Data

Brief generic measures of drug-related problems were sought rather than attempting to measure drug specific problems. The Severity of Dependence Scale has been validated to measure subjective cannabis, stimulant and other drug dependence (Gossop et al., 1992; Swift et al., 1998). This instrument was used for this purpose and additionally to include alcohol and tobacco use. Consumption measures for these drugs were taken as sufficient to demonstrate baseline equivalence, with a baseline measure enquiring about dependence on any illegal drug (following personal communication with Michael Gossop, lead author of the instrument).

Interactional problems were assessed using measures originally developed for adolescent alcohol problems (Bailey & Rachal, 1993). These enquired whether there were any problems with various categories of people at baseline, and additionally enquired which drugs were involved at follow-up. These questions specified problems caused by drug use. Other measures of harm which did not require drug use attribution to be made were included for health problems (as indicated by GP visits) and educational harms in the form of days absent from college. A five point scale developed during piloting assessed educational harms attributed to drug use. Also, at follow-up participants rated how problematic their use of each drug was to them.

A range of outcome measures were developed and piloted which addressed aspects of interactional risk (drug selling, pub and club-going, drug-related crime, intoxicated arrests, being offered and present at heroin use and present at injecting drug use). All were dichotomous except a question each on pubs and clubs which asked about past

month frequency, and one other which asked about three month frequency of drug-related acquisitive crime (of which there was hardly any reported). The last five of these outcomes (crime, arrests, being offered and present at heroin use and present at injecting drug use) were combined a priori to form a high-risk composite score.

Many psychological measures of indicators of risk were also created to evaluate outcomes. Two separate attempts were made to measure motivational stage of change. Both involved seeking to identify stage of change in relation to the use of *any* drug. They were thus not intended to estimate readiness to change in respect to any particular one or all drugs. Rather they sought to identify whether motivation to change was contemplated or acted upon for any one drug, the assumption being that the 'highest' stage of change would be reported.

Partly this approach was taken for economy of measurement. Existing instruments which specify stage of change in relation to specific drugs were found to be too long to incorporate individually, and also to be problem and behaviour change focused (McConnaughy et al., 1989; Rollnick et al., 1992b). The two attempts made (an opportunity for self-nomination of stage of change and a series of Likert scaled statements) were intended as simple versions of the two more sophisticated approaches predominant in the broader literature (algorithms and questionnaire scales, Carey et al., 1999).

Satisfaction with drug use and other life areas was measured using the seven point scale approach developed by Argyle (1987). Similar brief scales were used also for importance of drugs used and of other life areas, attitudinal positivity to drug use, views on the safety of drug use and rating of enjoyment/pleasure derived from drug use. The Drug Attitudes Scale (Parker et al., 1998a), General Health Questionnaire (Goldberg & Williams, 1988) and dedicated questions on decisions to cut down or stop, recording behaviour and future intentions to use drugs were also administered.

Two sets of 'before' and 'after' measures were collected only at follow-up; questions on drug selling (to both friends and others) and on decisions to cut down or stop drug use. In the case of drug selling, these questions were omitted from the baseline measure following the experience of piloting. Somewhat surprisingly, it became evident quickly that a verbal report of these data was much preferred to written self-completion (with concerns about legal consequences being cited). In the second case, this was inadvertently omitted from the baseline instrument.

It was decided to construct "before and after" measures at follow-up interview given the potential importance of these data. Drug-selling measures were equivalently distributed between the two groups, whereas the control group reported having made prior to study entry, cut down or stop decisions in relation to more drugs. Especially given the manner of data collection, it was deemed important to statistically control for this apparent non-equivalence.

5.3.4. Other Data

Randomisation sought to distribute equivalently among intervention and control groups all factors relevant to the effect of the intervention and its assessment. Potential confounders were to be found amongst variables to be used as outcome measures as well as in other data collected before and after intervention. Sociodemographic, educational and lifestyle data, age of first use and peer drug involvement, background pyschosocial risk and parental factors were all identified in the literature as potentially relevant to how drug use among the target population was likely to change over time. Data was collected in all of these areas to make stronger inferences about intervention outcomes and to allow study of change in the target population.

Feedback data was adapted from the items used by Marlatt et al. (1998). A brief set of questions using a seven point scale were used. At the time of design, no process study of motivational interviewing interventions was found in literature searches conducted (one study [Tappin et al., 2000] has been published since that time). Other studies of intervention processes (for example, Kaminer et al., 1998) were noted to be reliant on observation of recorded interventions. An instrument which measured specific intervention processes was developed through piloting.

5.4 Other Aspects of Methodology

5.4.1. Observations on Data Collected

Whilst many aspects of data collection appeared to function as intended, weaknesses in some areas became apparent. The methodological implications of these require consideration.

The PAIs did not record whether and how much assistance had been given with the baseline instrument, for each individual, as intended. However, it is clear from asking them at the end of fieldwork, that self-completion was the near universal mode of administration. PAIs typically reported an occasional enquiry to clarify a question, without major difficulties having been encountered. It was rare for there to be unanswered questions, these were followed up as necessary, and a reasonably complete dataset obtained.

The principal concern initially revealed by scrutiny of the baseline data centred on responses to the open question on future intentions. It was rare for participants to include alcohol and tobacco in their answer to this question. Whilst follow-up data confirmed that there were widespread intentions among cigarette smokers to discontinue use, this was much less true for drinkers.

The possibility exists that, despite directions to the contrary, questions asking about 'drugs' have been interpreted to refer more or mainly to illegal drugs. This is potentially problematic for those outcomes measured at baseline which sought to address drug

use in general (stage of change, intentions, attitudinal positivity, satisfaction, recording and interactional problems). The groups were equivalent at baseline in all these areas and it was decided to proceed with the use of the baseline measure, noting this possible source of unreliability. Intentions to use alcohol and cigarettes, were treated as an exception as there was no baseline measure available.

The follow-up interview proved straightforward to administer. This took 25 - 45 minutes to complete. Participants were comfortable with the general style of the interview according to informal feedback at the conclusion. It was noticeable that the responses to the qualitative data gathered in the final section tended to be brief and not expansive, in keeping with the general style of the interview. The only refusals to answer questions were those questions relating to sex and sexuality. The Likert-scaled stage of change questions presented the only obvious difficulties in comprehension (see later).

The 'before and after' questions on decisions to cut down or stop in the follow-up interview proved to be weak. High levels of positive responses highlighted that the formulation used is essentially asking two questions in one. Unfortunately, it was not enquired whether any such decisions had been acted on.

The stage of change questions were problematic in a number of ways. Firstly, the self-nomination question did not specify criteria for particular stages, affording respondents the opportunity to interpret it in different ways (Oppenheim, 1992). Secondly, the conceptual basis of the attempt to capture motivation for change across a range of

drugs was not grounded in the literature and flawed. Motivation or readiness to change will vary according to the specific change being proposed (Rollnick et al., 1999).

Motivation to make any risk reduction change is unlikely to be easy to define or meaningfully measure. Again, the latitude allowed to the respondent in interpreting such questions is problematic. Thirdly, it was obvious from observed reactions to the Likert-scaled items that these questions were simply not easy to answer. Why were these difficulties not picked up in piloting? In retrospect, lots of questions were asked by the pilot population about these questions and insufficient attention given to this fact. Unfortunately it was prematurely concluded that they were satisfactory, meeting as they did a perceived need for economy of baseline instrumentation. This in itself resulted from a reliance on feedback and face-validity in instrument development.

A surprisingly high proportion of smokers were light smokers. Questions asked about shared cigarettes by some of these interviewees cast some doubt on the reliability of the whole cigarette measure used. Similarly, the usual frequency of alcohol consumption among weekly drinkers would have been of some interest. At follow-up interview, it was apparent that differing interpretations of the frequency of cannabis use were being used when asking how many times someone was smoking. While all were advised that episodes of cannabis use were at issue rather than individual 'joints', definitions of what constituted an episode are not likely to be standardised. This is likely to be particularly problematic in the small number of very heavy users where the

beginnings and ending of one episode are difficult to define, as use is punctuated by only small breaks in time.

For cigarette and cannabis smoking and stimulant drug use, the two measures of usual frequency accorded well with each other. For alcohol, there was a tendency for recent drinking reports to be somewhat at odds with reported usual drinking frequency. For example, the proportion of monthly drinkers who reported drinking in the previous week was higher than would be expected. There were few inconsistencies between baseline and follow-up lifetime drug use patterns e.g. those reporting use lifetime use of a drug at baseline but not later. Those that did occur were largely variations in used once or twice and former user categories.

5.4.2. Data Analysis

Since the intervention is specifically intended to prompt participants themselves to consider options for change, a wide range of outcomes have been studied. It was deemed appropriate that outcome study should embrace an analytic strategy that involves the use of the same techniques for all outcomes.

In relation to drug consumption data, changes in use among the three drugs used by the majority of the sample (cigarettes, alcohol and cannabis) have been examined at four levels: Firstly, whether there are differences in mean consumption between the two groups as a whole; secondly follow-up point prevalence in terms of the proportions of current users; thirdly in terms of cessation, considering only those using at baseline;

and lastly whether there is evidence of reduced use amongst those continuing to use. The first and second levels involve consideration of outcomes in the available study population as a whole, and this is used for all other outcomes unless specifically indicated.

The Huber/White Sandwich estimator of variance was used to control for the clustered nature of the recruitment, using STATA version 6 software (Statacorp, 1998). Formal multi-level modelling procedures were also considered for this purpose. Their use was rejected for two reasons: Firstly, many of the outcomes were not normally distributed, which violates an important assumption of models of these types, whereas the method chosen is robust to non-normality. Secondly, ten such models were fitted to outcomes from each of the domains for indicative purposes. The intra-cluster correlation i.e. the extent of outcome variance attributable to similarity with others recruited by the same PAI was negligible in all cases. Their use would thus not be expected to confer benefits in comparison to simpler models. One minor disadvantage of the method chosen is that reported regression coefficients are not adjusted for clustering. The magnitude of differences between the groups (odds ratios and other regression coefficients) may vary slightly if clustering is important in any case. In light of the foregoing, there is no reason to believe that this should occur.

Multiple or logistic regression have been used as the modelling methods for continuous and binary data respectively. In analyses of baseline data, ethnicity was predictive of important differences in many measures. Intervention and control groups were also

found to be non-equivalent in respect of this variable (see chapter 6). It was therefore decided to control for ethnicity in all analyses, as well as the baseline measure where this was available. This has been termed the 'basic' model.

In addition to the basic model comprising group allocation, the baseline measure of the outcome in question and ethnic group, a range of other potential confounders (see chapter 7) were also investigated. These were all considered for inclusion in final models using a stepwise backward elimination procedure with a value of p=0.1. This was applied taking group allocation, ethnicity and baseline measure together. Where a regression coefficient is not reported for intervention group it is because this set has been removed from the model. None of these potential confounders was widely selected although it was not uncommon for one or two variables to be included, and for some of these to be statistically significant. This usually has the effect of decreasing the estimate of intervention effect. These has been termed the 'adjusted' model, and is the model on which interpretations of intervention outcome are based, as potential confounding has not been excluded as an alternative explanation.

In the case of use of drugs other than cigarettes, alcohol and cannabis, a sub-population has been defined, within which to investigate outcomes in some cases (those who had ever used any other illicit drugs). Where numbers are insufficient for any regression-based analysis, t-tests and chi-squared tests have been used. In these cases, the test statistic and a p-value are reported (along with degrees of freedom for categorical data).

Both a p-value, to assess the role of chance, and a regression coefficient, as an estimate of the size of the differences between groups, are reported for all regression-based results. Where the outcome is binary this represent an odds ratio, adjusted for the influence of other variables in the model. Similarly, where the outcome data are continuous, the regression coefficient is to be interpreted as the adjusted difference in the mean scores of the two groups.

All descriptive statistics are reported as means or proportions, for continuous and categorical data respectively. P-values are reported where they are less than 0.1, so that NS signifies p>0.1.

5.4.3. Ethical Issues

Ethical aspects of the study were considered at the design stage and approval obtained from the local Ethical Committee. Retrospective treatment of issues that emerged during the fieldwork takes place in this section. Issues relating to intervention practice are discussed in Chapter 3.

The piloting stage of the project was used to identify concerns including ethical aspects of the proposed data collection. This was not successfully used to identify in advance the two related areas in which there were refusals given to questions asked (in approximately 5% of cases); sexual activity and sexuality. Whilst some nervousness and many smiles were observed, it was decided to pursue questions in these two areas.

It is likely that in addition to those refusing to answer questions, others who did answer felt uncomfortable being asked.

The extent of discomfort in relation to questions that were answered is unknown. This highlights one important omission from the data collected; how participants actually experienced their involvement in the study (in relation to completing the questionnaire and being interviewed). Such data, had it been collected, would have been expected to provide valuable material for the purposes of an ethical discussion. Quantitative feedback data was collected on completion of the intervention but did not reveal any such issues.

It became apparent that the payment of £10 per completed interview was an important motivation for study participation. Beyond the ethics of capitalising on financial motivation, no other ethical questions were raised. Feedback from PAIs suggested that their rate of payment (£5 per participant) was a fair amount for the time and activities involved. Among the PAIs, the seeking of learning experiences (in relation to research) was the other main motivation for involvement. When asked how the role could be improved, the most frequent response related to accreditation or other formal recognition of activity. One PAI requested and was given a reference for a job.

Study participants were guaranteed confidentiality on entering the study. Awareness of inclusion criteria among staff contacts allowed inferences to be made by them about the drug-using status of individual participants i.e. that they were using illegal drugs. Where

this became apparent, they were reminded of the importance of confidentiality, which was easily understood. It was also possible for this knowledge to be disclosed by PAIs or otherwise shared amongst those recruited within a cluster. The importance of this issue was emphasised to PAIs and inappropriate disclosures of this type were not known to have taken place.

It is common for brief intervention studies to employ some ambiguity about the purpose of the study. For example, alcohol brief interventions in general practice are commonly introduced as health promotion interviews. Similarly, here consent was given to participate in a study involving one or two interviews, without specifying in detail, intervention intentions. This concealed the nature of the study from the control group. Prior to the intervention being delivered, care was taken to ensure that consent to receive intervention was clearly established. Although there are not thought to be any additional concerns in relation to consent resulting from the age of the participants, it may be desirable to formalise consent to receive intervention, prior to it beginning.

The final ethical issue to be discussed emerged during the follow-up component of the study. Repeated attempts were made to contact participants until, as happened in only a single case, a refusal to continue was obtained. There were many cases of arrangements made and not kept, phone calls terminated, phone and postal messages not returned and other behaviours which could signify reluctance to be interviewed, but these were not interpreted as sufficient grounds for discontinuing attempts at contact. Rather, they were seen as probable evidence of degrees of reluctance to 'be bothered

with' making and keeping an arrangement for interview. Conversations were carefully managed to encourage attendance, whilst attempting to be sensitive to reasons for reluctance other than simple convenience. This was seen as justifiable as the inconvenience was seen as minor. It is noteworthy that, across the study population of 200, there was only one actual refusal to participate in follow-up.

CHAPTER 6: NON-EXPERIMENTAL FINDINGS

Synopsis

All data not involving direct experimental comparison between intervention and control groups are reported in this chapter. The drug use and related characteristics of the study population as a whole are presented as a precursor to the examination of the influence of various sociodemographic factors on drug use and risk. Consideration of attrition within the study sample between recruitment and three month follow-up is succeeded by a comparison of the equivalence of the two groups among those retained.

In the remainder of the chapter, data are presented which describe the nature of change over time in the two study groups separately. Some change in patterns of drug use among the control group is identified. A dynamic portrait of change over time in the intervention group is evidenced by scrutiny of individual-level data in relation to cigarette smoking, alcohol consumption and cannabis use. The relationship of intervention process data to three month outcomes in these areas is studied. Finally, quantitative feedback and qualitative data on the intervention are presented.

Introduction

The findings from this study are reported in the next two chapters. This report will begin with an account of sociodemographic and other characteristics of the entire study population, and then proceed to consider their drug use and related risk prior to intervention. Enquiry into the relationships between sociodemographic variables and

variables indicative of risk is made. It is contended that attention to these data is particularly valuable in light of the paucity of similar data, as observed in Chapter 1. Attrition is then examined along with the issue of resulting equivalence of the intervention and control groups for comparative purposes.

The second half of the chapter begins with a general consideration of the nature of change over time in the absence of intervention i.e. data relating specifically to the control group. Among the intervention group individual-level data on cigarette smoking, alcohol consumption and cannabis use is examined and much change is observed. Data describing what took place during the intervention will be followed by analysis of the associations between these data and outcomes for the three drugs used by the majority of the sample. Feedback data collected from the intervention group are similarly considered in relation to three month outcomes. Chapter 8 then comprises a direct comparison of outcomes of the experimental versus the control group.

6.1. Characteristics of the Study Population

6.1.1. Sociodemographic Characteristics

Sociodemographic characteristics of the 200 study participants are presented in the table below. The intention was to recruit a diverse and representative sample of young people via F.E. colleges, who were current users of illegal drugs, across inner London. It was hoped that sufficient numbers would be recruited to allow in-depth study of the intervention taking account of patterns of drug use, risk and problems. A further concern was to study the influence of educational variables, indicators of socioeconomic deprivation and other factors affecting the potential impact of the intervention and generalisability of the results obtained.

Table 6.1

BASIC SOCIODEMOGRAPHIC CHARACTERISTICS OF PARTICIPANTS

AGE
16 18% (n=36)
17 32% (n=63)
18 25% (n=50)
19 18% (n=35)
20 17% (n=14)

GENDER
Female 43.5% (n=87)
Male 56.5% (n=113)

ETHNIC GROUP
Black 48% (n=96)
White 38.5% (n=77)
Asian 13.5% (n=27)

RELIGIOUS BACKGROUND
Christian 47% (n=84)
Non-Christian religion 17% (n=31)
None 36% (n=64)

5+ GCSE GRADES
A-C 44% (n=86)

COHABITEES
One parent 50% (n=89)
Two parents 34% (n=60)
Other 17% (n=30)

HOUSING
Rented 53% (n=94)

HOUSEHOLD INCOME
Benefit dependent 43% (n=74)

MAIN PERSONAL INCOME SOURCE
Job 45% (n=80)
Parents/family 38% (n=67)
Other 17% (n=30)

Age, gender, ethnicity and GCSE status were measured at study entry among the entire sample of 200. Student status was also collected at this point. Participants were mostly full-time students (n=167), with small numbers of part-time students (n=21) and non-students (n=11). The remainder of these data were collected at follow-up, from the 179 participants (89.5%) successfully followed-up. Where totals fall just short of 179 or 200, and discrepancy is accounted for by missing data.

6.1.2. Selected Background Risk Factors

In addition to basic sociodemographic data, it was known that certain groups of young people may be at elevated risk of drug use, drug problems and other psychosocial difficulties. It was considered important to assess whether variables indicative of such vulnerability influence other variables being studied. These data were collected at follow-up and a selection of these variables is presented in table 6.2.

Table 6.2

SELECTED BACKGROUND RISK FACTORS (n=179)

PARENTAL FACTORS:		
Illegal drug use	47%	(n=85)
Alcohol problems	19%	(n=34)
Imprisonment	13%	(n23)
Psychiatric hospital stay	3%	(n=6)
PERSONAL LIFETIME EXPERIENCE:		
Homelessness	13%	(n=24)
Psychiatric attendance	17%	(n=30)
Social Services care/accommodation	10%	(n=18)
Permanent school exclusion	10%	(n=17)
Temp. school exclusion only	28%	(n=51)

6.1.3. Involvement in the Use of Legal and Illegal Drugs

Drug use among the sample at study entry was found to be as reported in the table below. Tobacco, alcohol and cannabis use were all prevalent in the overwhelming majority of the sample. The use of drugs other than tobacco, alcohol and cannabis involved only a minority, stimulant drug use being most prevalent. In the table below, irregular stimulant users are defined as those who use on special occasions or every few months, whilst regular users are those who use every month or more often.

Table 6.3

CURRENT DRUG USE STATUS FOR FOUR MAIN DRUG TYPES (n=200)

TOBACCO		ALCOHOL	
Current non-smokers	21%	Current non-drinkers	16%
Non-daily smokers	22%	Non-weekly drinkers	40%
Daily smokers	58%	Weekly drinkers	45%
CANNABIS		STIMULANT DRUGS	
Current non-smokers	3%	Never used	53%
Monthly or less smokers	19%	Former users	12%
Weekly smokers	31%	Irregular users	20%
Daily or near daily smokers	48%	Regular users	16%

It was very rare for those who had never used stimulant drugs to have ever used any other illegal drugs (n=3). The most common non-stimulant other drugs reported were LSD, magic mushrooms and amyl nitrite (see table 7.4). The majority of those who had used each of these drugs, reported no use within the previous three months. Apart from glue, gas and solvents, which had been discontinued in all bar three cases, there were

no other drugs reported as ever having been used beyond a small number of cases. The proportions who had ever used and the mean age of first use in table 6.4.

Age of first use is also reported in table 6.4. Three quarters of all who had ever drank alcohol had had their first drink by the age of fourteen. Cannabis smoking was first tried on average just before the fourteenth birthday, and stimulant and other drug use first occurred at a mean age of fifteen years old. It is additionally noteworthy that 10% of the sample report trying cigarettes "once or twice" and not ever having been regular cigarette smokers.

Table 6.4

LIFETIME DRUG USE EXPERIENCE (% EVER USED) & MEAN AGE IN YEARS OF FIRST USE (n=200)

Cigarettes	97.5	(n=195)	12.75
Alcohol	93	(n=186)	11.98
Cannabis	99.5	(n=199)	13.95
Amphetamines	29	(n=58)	15.12
Ecstasy	35.5	(n=71)	15.93
Cocaine	36	(n=72)	16.06
Crack	14.5	(n=29)	15.84
Any Stimulant Drug	47	(n=94)	15.48
Amyl Nitrite	18	(n=36)	15.05
LSD	18	(n=36)	14.83
Magic Mushrooms	23	(n=46)	15.54
Solvents	9.5	(n=19)	13.81

Among stimulant drug users, lifetime use of amphetamines and crack are less prevalent than ecstasy and cocaine (table 6.4). It is noteworthy, however that approximately 30%

of all who have ever used stimulant drugs have tried crack cocaine. Apart from a small minority, the extent of lifetime involvement with stimulant use is fairly minimal. Stimulant use in general appears in this sample either to be something tried and ceased, or not yet having become regular and frequent.

6.1.4. Psychological Aspects of Drug Use

Among those who have not used illicit drugs other than cannabis (n=104, 52%), approximately 90% report recently enjoying cannabis more than alcohol and tobacco. Among irregular stimulant users (n=40), slightly more (46%) enjoyed cannabis more than ecstasy (36%). Among regular stimulant users (n=32,), however, the majority (61%) nominated ecstasy as having given most recent pleasure, with smaller proportions preferring cannabis, cocaine or other drugs.

When asked to rate how satisfied they were with their drug use on a seven-point scale, 35% (n=70) scored neutral, 9% (n=18) more dissatisfied than satisfied, and 56% (n=112) more satisfied than not. Forty-seven per cent (n=94) had not been thinking about making any risk reduction change in their drug use, whilst 25% (n=49) were currently contemplating changes. The remainder considered themselves to be changing something now (13%, n=26) or to have changed recently (15%, n=29). The majority (55%, n=109) had made at least one decision to stop or cut down their use of a drug at some time in the past. The Severity of Dependence Scale (Gossop et al., 1992) was used to measure subjective severity of dependence on any illegal drug. In one third of cases a score of 4 or more was obtained (n=66), whilst just under half (n=93, 47%)

scored three or more, indicating some evidence of dependence.

6.1.5. Interactional Aspects of Drug Use

Peer influences on drug use among young people are complex. Rather than being excessively and passively influenced by other drug users, young people who use drugs are known to select drug-using friends (Bauman & Ennett, 1996). As involvement in illegal drug use extends, so does the proportion of drug using friends. Data on the drug use of friends are presented in the table below.

Table 6.5

PEER INVOLVEMENT IN ILLEGAL DRUG USE (n=200)

PROPORTION OF FRIENDS WHO USE:	CANNABIS	OTHER DRUGS
None or hardly any	2% (n=3)	40% (n=80)
Less than half	11% (n=22)	24% (n=48)
About half	14% (n=28)	12% (n=24)
More than half	25% (n=50)	12% (n=24)
All or nearly all	49% (n=97)	12% (n=24)

Forty per cent (n=80) considered themselves to have interactional problems caused by drug use. These most commonly involved parents or family (26%, n=52), followed by peers (17%, n=34).

Thirty-five per cent (n=69) had previously been offered heroin, with a similar proportion (36%, n=72) actually having been present at heroin smoking. A smaller proportion (12%, n=24) had been present during injecting drug use. Fifteen per cent (n=29) had been previously arrested while intoxicated, though few (6%, n=11) reported drug

motivated acquisitive crime. Much higher proportions had been involved in selling drugs. Forty six per cent (n=81) had previously sold drugs to friends and 17% (n=30) to people who weren't friends.

6.2. Sociodemographic Factors Associated with Drug Use & Risk

The following analyses consider the relative significance of various sociodemographic characteristics for the patterns of drug use and risk observed in the study population prior to intervention. All analyses are adjusted for the influence of other variables via logistic or multiple regressions. Regression coefficients reported here are not adjusted for the clustered nature of the recruitment strategy. Stepwise procedures have been used to select variables for inclusion in the final regression models using backward elimination with a cut-off point of p=0.1 (see chapter 5).

In all the results presented, geography, educational attainment and student status, age, gender and ethnicity are analysed among the full study sample of 200. Subsequently, the influence of socioeconomic deprivation is studied, controlling for the influence of the previously cited factors, through the inclusion of two further variables (living in rented accommodation and household reliance on state benefits). These latter data were collected among the 179 participants successfully interviewed three months after study entry.

6.2.1. Ethnicity

Participants were invited to self-nominate mutually exclusive White and Black categories and various other, mainly Asian, options. For the purposes of analysis, these have been aggregated to three categories of ethnicity in the following way. All those describing themselves as mixed race Black/White have been considered here as Black. The Asian category also includes a small number of non-White, non-Black people,

mainly north Africans. The sample sizes of the three resulting categories are reported in table 7.1.

Ethnicity was twice as influential as any of the other variables studied in the total number of risk indicators with which it was significantly associated. In almost all indicators of risk where ethnic differences were observed, young White people were found to be more at risk than either their Black or Asian peers. On one variable, the frequency of nightclubbing within the previous month, Black and Asian teenagers went on average around once a month more (r=1.1(Black)/0.95(Asian), F=4.34, p=0.0219). Another possible exception to this general rule was in the usual weekly frequency of cannabis use, where being Black was associated with smoking slightly more often (r=1.6, but not statistically significantly so) than being White. Asian young people smoked less often (r=-6.49, p=0.014) than White peers. Ethnicity as a whole was associated with this variable (F=4.03, p=0.0279)

White participants started drinking alcohol and smoking cannabis at earlier ages than others. On average, young Black people were almost one year older (r=0.83) and young Asian people more than two years older (r=2.16) in the case of mean age of first use of alcohol (F=9.21, p=0.007). For cannabis, Black (r=0.92) and Asian (r=1.34) participants were around a year older (F=7.18, p=0.0027) in mean age of first use.

White participants were also found to drink around 14 units per week more on average (r=14.36(Black)/13.7(Asian), F=26.23, p<0.0001) and visits pubs approximately four to

six times a month more (r=6.41/3.75, F=31.02, p<0.0001). Black and Asian participants had proportionately less friends who smoke cannabis than White participants (r=0.73/1.23, F=14.98, p<0.0001). (Even though for Black participants, their frequency of smoking was not less than White.) Lower levels of cigarette smoking were also evident for Black and Asian participants. They smoked on average much less cigarettes per week than their White counterparts (r=26,49/5.12, F=3.92, p=0.0001).

These differences point towards important ethnic differences in the smoking of cigarettes and cannabis and in the drinking of alcohol. Differences were even more marked in respect of the use of other illegal drugs. The contrast is most stark between White and Black teenagers, with young Asians occupying an intermediate position.

Eighty-eight per cent (n=68) of young White people had lifetime experience of any stimulant drug use compared to 15% (n=14) Black and 42% (n=11) Asian. The calculation of odds ratios becomes a meaningless exercise in this context. The *lowest* odds ratio observed for any illicit drug other than cannabis was for magic mushrooms. Here, Black teenagers were 18.9 times and Asian teenagers 11.59 times more likely than White teenagers never to have used this drug. (48%, [n=37] White; 6% [n=6] Black; 11% [n=3] Asian). It was not possible model ethnicity and lifetime prevalence of LSD, given the extent of collinearity: Only one Black and one Asian person respectively had ever used this drug as compared to 44% (n=34) of White participants. These large ethnic differences were mirrored in levels of current use.

Young Black and Asian people had much fewer friends who used illegal drugs other than cannabis (r=1.61/1.37 [on a five-point scale], F=29.84, p<0.0001). They were also less positive in attitudes to drug use in general, scoring approximately one point lower on average on a ten point scale (r=0.98/1.12, F=7.55, p=0.0021).

Diverse patterns of drug use and risk has been observed between the three ethnic groups studied. Ethnicity thus emerges as a key variable in understanding patterns of drug use and risk among young people.

6.2.2. Age

Age was expected a priori to be an influential variable. Differences were observed relating to age of first use, with cigarettes (r=0.41, p=0.002), alcohol (r=0.54, p=0.007) and cannabis (r=0.22, p=0.041) all being first used earlier among younger participants. Data from other sources suggest that children and young people are using a range of drugs earlier than previously.

Older teenagers drank more alcohol than their younger counterparts in the week prior to study entry (r=2.58, p=0.004), averaging an additional two and a half units consumed for each year above the age of 16. Similarly, younger participants were more likely not to have ever used stimulant drugs (OR=0.57, p=0.005). Younger people were more likely to be currently using non-cannabis, non-stimulant illicit drugs (OR=1.46, p=0.031).

Younger participants were more likely to have problems in interactions with others

which they believed were caused by drug use (OR=1.5, p=0.001). More interactional problems specifically with parents or family were also reported (OR=1.4, p=0.023).

6.2.3. Gender

There were no gender differences apparent in the smoking of cigarettes or cannabis or in patterns of alcohol consumption. Other recent data describe a narrowing of gender differentials from a situation where previously young men were more involved in all forms of drug use. In this sample, it was found that young women were approximately three and a half times more likely than young men to have ever used stimulant drugs (OR=3.45, p<0.001) and to have more friends who used illegal drugs other than cannabis (r=0.3, p=0.033).

Women were almost twice as likely to have had problems with friends caused by drug use (OR=1.83, p=0.26). Men were four times as likely to have had problems with the police caused by drug use (OR=0.25, p=0.012) and were much less likely to have visited their GP (r=0.29, p=0.048).

6.2.4. Educational Attainment

Those with five or more GCSE passes at grades A - C were compared with those who had not. Somewhat surprisingly the former were found to have missed more college days in the preceding three months (r=2.69, p=0.012). More alcohol was also drunk (r=6.15, p=0.021) and more time spent in pubs (r=1.8, p=0.037) by those with higher educational attainment. For problems in interactions with others attributed to drug use,

the picture was mixed. Problems with the police were more likely to occur among those with less GCSE qualifications (OR=3.59, p=0.002). Problems attributed to drug use in interactions with college staff (OR=0.19, p=0.035), and in relationships with others (OR=0.28, p=0.009) were more likely for those with more qualifications.

6.2.5. Geography

Individual colleges were aggregated to two larger geographical units (six north and four south of the river Thames) to test for locality/community differences. On only a single variable were differences reported - level of satisfaction with personal drug use (r=0.44, p=0.01). Those attending colleges south of the river Thames were observed to be almost half a point (on the seven point scale) more satisfied with their drug use.

6.2.6. Socioeconomic Deprivation

The results reported above (among the entire sample) generally held true when additionally controlling for the influence of two indicators of socioeconomic deprivation, among those followed-up (being the point at which these data were collected). The analyses presented hereafter necessarily omit the 21 participants not successfully followed-up. Living in rented accommodation proved to be a relatively poor predictor of patterns of risk: those living in rented accommodation were twice as likely to intend to stop smoking cannabis in the next 12 months as those not, but this was not statistically significant (OR=0.5, p=0.059).

Living in a household reliant on state benefits, on the other hand, predicted a range of

indicators of risk. This variable was created from inferences made about the employment status of the head of household. This 'benefits' variable was more influential in comparison to all bar one of the variables above (ethnicity), in terms of the number of risk factors with which it is associated.

Those living in households on benefits usually smoked more cigarettes (r=14.21, p=0.01) and cannabis more frequently each week (r=5.95, p=0.037) than others, despite having an older age of first use of cannabis (r=0.72, p=0.007).

They were also twice as likely to have problems in interactions with others caused by drug use (OR=0.52, p=0.047), including being four times as likely to have problems with college staff ((OR=0.26, p=0.047). They were also approximately 8 times more likely to have problems with adults in the localities where they lived (OR=0.11, p=0.01) and 6 times more likely to commit drug-motivated acquisitive crime (OR=0.17, p=0.044, though the number so doing was only nine). Despite the higher incidence of problems, they were more than three times as likely not to have someone to talk to about their drug use, if they were anxious or concerned about it (OR=3.19, p=0.006).

6.3. Attrition

Participants were contacted for follow-up interview either by PAI or directly by researcher. They were not contacted until two months after study entry, and the mean interval between baseline data collection and follow-up interview was 90 days. It was not possible to interview 14 participants until after 120 days, but of these, interviews took place with only 5 after more than 130 days. The mean interval for the intervention group between study entry and follow-up was 88 days, whilst for the control group it was 93 days (t=1.58, NS)

A satisfactory follow-up rate of 89.5% (n=179) was obtained. Of the 21, who were not successfully followed-up, 20 could not be located and one individual declined further participation in the study. A higher proportion of the intervention group was retained (92%, n=97 compared to 86%, n=82) but this proved not to be statistically significant (chi-sq. 1.95, 1 df, NS).

The 21 participants lost to follow-up were compared to the 179 retained in the study using t-tests and chi-squared tests on all variables collected at baseline. The following statistically significant differences were observed: Those who were not retained were older (mean age 18.8 years compared to 18.1, t=2.38, p=0.018), had missed more college or work days (monthly mean 9.14 compared to 5.99, t=2.04, p=0.042), were less likely to be full-time students (9 of the 21 [compared to 23 of the 179], chi-sq. 12.5, 2 df, p=0.002) and more likely to have used crack cocaine at some point in their lives (6 of 21 [compared to 21 of 179], chi-sq. 4.45, 1 df, p=0.035).

In addition to these statistically significant differences, other noteworthy ($p<0.1$) data related to gender, ethnic group, and having ever been offered heroin. Sixteen of the 21 lost to follow-up were male (chi-sq. 3.7, 1 df, $p=0.054$), 6 were Asian (chi-sq. 5.0, 2 df, $p=0.082$) and approximately half (11 of 21) had previously been offered heroin compared to approximately one third (58 of 179) of those retained (chi-sq. 3.25, 1 df, $p=0.071$).

No differences were observed ($p>0.1$ in all cases) on any other cigarette smoking, alcohol, cannabis, stimulant and other drug use data (lifetime use, use status, frequency, age of first use). Similarly, there were no statistically significant differences on any other psychological or interactional indicators, nor in educational qualifications.

6.4. Equivalence Between the Groups

Data collected from participants in the experimental units (comprising the 179 participants interviewed at follow-up, n=97 intervention group; n=82 control group) were compared to establish whether there were any differences between the groups prior to intervention. This was done in order to; a) identify any variables to control for in analysing outcomes; and b) consider whether there may be unmeasured differences between the groups. Comparisons were made using all baseline data and those data collected post-intervention for which baseline equivalence may be inferred. On all variables other than those discussed below, no differences between the groups were observed.

In initial comparisons between the two groups using t-tests and chi squared tests, differences were observed on a wide range of variables (and considering differences worthy of further investigation as being those with p-values below or near 0.05). Among these unplanned differences was the variable ethnic group which had been previously identified to be influential. The intervention group comprised 32% (n=31) White, 61% (n=59) Black and 7% (n=7) Asian participants, whereas the control group comprised 46% (n=38) White, 37% (n=30) Black and 17% (n=14) Asian participants (chi-sq. 11.3, 2 df, p=0.003).

Logistic regression was used to control for the influence of this variable on differences between the groups. This resulted in a number of the apparent differences between the groups being accounted for (original differences reported in brackets): Frequency of

pub-going (t=2.6, p=0.01); Stimulant use status (chi-sq. 9, 3 df, p=0.029); Lifetime use of LSD (chi-sq. 3.62, 1 df, p=0.057); Interactional problems with the police (chi-sq. 3.6, I df, p=0.054); Having ever seen a psychiatrist (chi-sq. 4.5, I df, p=0.035). In all cases, the p-values obtained using logistic regression greatly exceeded statistical significance. There remained eight differences between the groups, after controlling for ethnic group, which are presented in the table 6.6. The unadjusted differences between the two groups are as follows:

Drug-related interactional problems with parents or family were more prevalent in the intervention group (n=31) than the control group (n=15, chi-sq. 4.35, 1 df, p=0.037). SDS score was also higher in the intervention group and of borderline statistical significance (mean of 3.1 compared to 2.4, t=1.95, p=0.053).

The control group, on the other hand, scored higher in attitudinal positivity to drug use (mean of 6.5 compared to 5.6, t=3, p=0.003) and on the number of drugs for which prior decisions to cut down or stop had been made (mean of 1.3 compared to 0.8, t=2.57, p=0.011).

There were higher levels of non-response to a question asking about intentions to use drugs in the future (12 months). Interpreting these as intentions not to use produces two other differences (see chapter 8). Intentions to discontinue cannabis use appear among more of the intervention group (n=25) than the control group (n=9, chi-sq. 6.32, p=0.01), amongst whom there are intentions to

be using more drugs (mean of 2.3 compared to 1.5, t=3.63, p<0.0001).

Further differences were observed on two variables collected post-intervention, the number of stimulant drug-related musical styles and the number of sports participated in. In the case of musical preferences, the control group scored higher (i.e. nominated more musical styles identified a priori as related to stimulant drug use; mean of 0.69 compared to 0.37, t=2.8, p=0.006) and were less involved in sports (mean of 1.3 compared to 1.7, t=2.17, p=0.03). Of these two differences, musical preferences seem unlikely to have been influenced by intervention in any direct fashion, whilst sporting participation might possibly have been. Nonetheless, some difference in baseline sporting participation appears likely, though it is impossible to estimate the extent of this, from within the data collected in this study.

Table 6.6: Differences Between the Groups After Controlling for Ethnicity

VARIABLE	COEFFICIENT	P-VALUE
Family interactional problems	2.61	0.012
Intention not to use cannabis	0.39	0.03
Number of drugs intended to use	1.46	0.011
SDS score	0.88	0.054
Attitudinal positivity to drug use	1.25	0.006
Drug decisions	1.32	0.058
Stimulant Music Preferences	1.61	0.053
Sports Participation	0.73	0.02

6.5. Change over Time in the Absence of Intervention

This section contains a brief presentation of data on aspects of change in drug use in the control group (n=82) during the three-month study period.

The mean number of cigarettes smoked per week increased, but not significantly, from 35.0 to 39.4 (t=1.15, NS). The number of daily smokers also slightly increased from 50 to 53 with the number of weekly smokers (n=6) unchanged.

Similarly the amount of alcohol consumed in the week prior to data collection increased from 12.6 units to 14.2 units (t=1.05, NS). There was a small increase in the numbers who usually drank every week (from 39 to 43) and a larger proportionate increase in the number who drink every month, but not every week (from 17 to 24).

The mean weekly frequency of cannabis use increased from 13.3 to 16.9, a change which was statistically significant (t=2.27, p=0.026). This was in part accounted for by an increase in the number who reported smoking every day (from 21 to 29). Greater involvement with cannabis use was also apparent from increasing proportions of friends who smoked cannabis (mean of 3.1 on five-point scale to mean of 4.0, t=10.1, p<0.0001).

There were small changes in stimulant drug use in the control group as a whole with the exception of the frequency of ecstasy use. The numbers using amphetamines, ecstasy, cocaine and crack in the previous three months changed from 8, 21, 21 and 1

respectively to 12, 26, 17 and 0 respectively. There was a significant increase in the frequency of ecstasy use in the group as a whole - from a mean of 1.1 to 2.1 times in three months (t=2.66, p=0.009). The numbers involved in other drug use were also small, but some movement was detected. The numbers who had used amyl nitrite, LSD and magic mushrooms increased from 3, 5 and 11 respectively to 5, 11 and 19 respectively. This resulted in the total number of those using non-cannabis, non-stimulant illicit drugs increasing from 17 to 27.

6.6. Change in Cigarette, Alcohol and Cannabis Use in the Intervention Group: Individual-Level Data

This section examines change in the intervention group during the three-month study period, and in so doing, provides insights into the inter-related character of changes in the use of the three main drugs. Individuals are categorised as having made changes according to the following criteria:

1. Movement in or out of four cigarette and cannabis smoking categories (daily, weekly, less frequent & non-smoking), and four alcohol consumption categories (weekly, monthly, less frequent & non-drinking).

2. Change in consumption quantity or frequency within these categories of 50% or more, above specified minimum thresholds (10 cigarettes per week, 10 units of alcohol per week and five episodes of cannabis use).

Among the 97 recipients of the intervention successfully followed up, increases and decreases in use by individuals were observed as in the tables below. In only 9 cases was there neither any increase nor decrease. Where changes involve more than one drug, they may involve either cessation or reduction. These two types of change are separated where there is only one drug at issue.

Table 6.7

No Increases	55
Increase in Cigarette Use Only	10
Increase in Alcohol Use Only	19
Increase in Cannabis Use Only	4
Cigarette & Alcohol Increases	5
Alcohol & Cannabis Increases	4
Cigarette & Cannabis Increases	0
Increases in Use of All Three	0
Total	97

Table 6.8

No Decreases	26
Cigarette Smoking Cessation only	7
Alcohol Cessation Only	0
Cannabis Use Cessation Only	8
Decrease in Cigarette Use Only	4
Decrease in Alcohol Use Only	12
Decrease in Cannabis Use Only	13
Cigarette & Alcohol Decreases	5
Alcohol & Cannabis Decreases	8
Cigarette & Cannabis Decreases	7
Decreases in Use of All Three	8
Total	97

Individuals may also increase their use of one drug and decrease their use of another. Twenty-five individuals were observed to have done so. Of these 25, 7 increased cigarette smoking, 13 increased alcohol consumption, 3 increased cannabis use, 1 increased cigarette smoking and alcohol and 1 increased alcohol and cannabis use. Examining decreasing use among these same 25, 5 reduced cigarette smoking, 3 reduced alcohol consumption, 10 reduced cannabis use, 1 reduced cigarette smoking and alcohol, 3 reduced alcohol and cannabis use, and 3 reduced cigarette and cannabis smoking.

The tables above include non-users of each of the drugs at study entry. When attention is restricted to baseline users, the observed changes are reported in the tables below for each drug.

Table 6.9

	Cigarettes	Alcohol	Cannabis
Decrease	30 (39%)	33 (38%)	44 (46%)
Increase	12 (16%)	28 (33%)	7 (7%)
No change	34 (45%)	25 (29%)	44 (46%)
Totals	76	86	95

Of the 30 cigarette smokers who decreased their use, one third (n=10) did not reduce their alcohol or cannabis use, and of these 10, 7 quit smoking and 3 reduced the amount smoked. Two thirds (n=20) changed their cigarette smoking and other drug use

during the study period. Of these, 5 also reduced the amount of alcohol consumed, 7 their usual frequency of cannabis use, and 8 reduced their use of all three drugs. Ten of the 12 baseline cigarette smokers who increased their use of this drug did not increase their use of any other drug (the other 2 increased their alcohol consumption).

Twelve of the 33 (36%) who reduced their alcohol consumption did so by drinking less and did not reduce their use of any other drugs. Five changed cigarette smoking, 8 reduced cannabis use and 8 all three as reported in the previous paragraph. Of the 28 who increased their alcohol consumption, 5 also smoked more cigarettes and 4 smoked cannabis more frequently, whilst 19 reported no other increases.

Forty-eight per cent (n=21) of the 44 who reduced their cannabis use did not decrease other drug use. Of these, 8 ceased use and 13 reduced frequency. Eight also changed their drinking, 7 cigarette smoking and 8 their use of all 3 drugs. Three of those who increased their cannabis use did not increase their use of any other drugs, whilst 4 consumed more alcohol.

6.7. Intervention Process Data

According to the nature of the intervention and its' hypothesised impact, it was considered likely that intervention process itself would be a promising area of study. Prior to the delivery of interventions, no instruments were known to have been developed for this purpose. A brief instrument was developed which was hoped to be reasonably comprehensive and yet could be completed within two or three minutes at the end of the intervention (appendix 9). Other possibilities for data collection, such as involving audio or video recording, were deemed to be beyond operating constraints.

In addressing the potential for relating process data to observed outcomes, many of the observations to be made were identified as having significant evaluative components - for example, in relation to the 'quality' of self-motivational statements. An attempt was also made on the basis of the experience of intervention to predict outcomes on a small number of variables. The reliability of data involving evaluative elements of these types is recognised as problematic.

One-hundred and five interventions were delivered over a nine-week period from the beginning of February 2000 onwards. Ninety of these took place in interview rooms at colleges, with the remaining 15 in informal venues such as cafes, pubs or homes. Where recipients were not well engaged by intervention, they were offered an early opportunity to terminate the interview. The shortest interview took 20 minutes intervention time and the longest 70 minutes (this one interview was the only one which was beyond the intended maximum of 60 minutes, with the next longest being 55

minutes), with a mean intervention duration of 36 minutes. Just under 30% (n=31) of interventions took less than 30 minutes to complete, a further 37% (n=39) took under 40 minutes and 32% (n=34) took 40-55 minutes.

6.7.1. What Took Place During the Interventions?

Topics 1 (the opening strategy), 4 (the good things and the less good things about drug use) and 5 (values and goals) were intended to be discussed with all participants. The numbers with which these and other topics were used are presented in the table below.

Table 6.10

1 Opening Strategy	104
2 Feedback and Discussion of Assessment Data	17
3 A Typical/Recent Episode/Period	7
4 Good and Less Good Things	104
5 Values & Goals	97
6 Risks and Problems	51
7 Hypotheticals	21
8 Exploring Concerns	7
9 Evaluation & Decision Making	19
10 Providing Information	6
11 Decisional Balance	46
12 Controlled Drug Use	50
13 Making Plans and Making Changes	17

As can be seen in the table, the intended core components were discussed with almost all. Topic 6 proved to be a key early topic used. Where it was not used formally, it was usually because enough material of this type had been gathered during topics 4 and 5. Topics 2, 3 and 7 were intended for use where progress was not as hoped for, or it was other wise desirable for further risk data to be collected. Topics 8 & 9 were expected to be used more widely and topic 11 proved unexpectedly common.

Four recipients discussed three topics only; with 22, 4 topics were used; with 40, 5 topics; with 28, 6 topics; with 9, 7 topics were used; and finally with 2 individuals 8 topics were discussed. The use of particular topics was decided by the worker or as negotiated with the recipient. In a significant minority of decisions (particularly towards the end of the conversation), a simple choice was offered to the recipient.

Clear decisions to act to change some aspect of drug use were voiced by 25 participants in the course of the intervention, with a further 29 "maybe's" discussing and further contemplating specific changes. Of the 54 combined intended or potential changes articulated, 35 involved one drug, 15 involved two and 4 involved three drugs. Changes discussed involved cannabis (n=36), cigarettes (n=31), alcohol (n=6) and all other drugs (n=4).

Forty-five participants were interested in brief self-monitoring and other materials relating to intervention components. These were mostly those with whom topic 12 was discussed. The two most popular of these were "Episode Analysis" which was taken by

20, and "Self-Assessment" which was taken away by 23 participants. The first of these advocated the monitoring of thoughts, feelings and actions, before, during and after a particular episode which gave rise to concern. The latter advised on simple means of monitoring consumption and consequences. Other materials were taken by up to and around 10 people.

The drug which was most discussed by the study subject was recorded by the worker. Cigarette use was most discussed with 12 participants, alcohol with 23, cannabis use with 62, and stimulant drugs with 8. A drug was defined as being salient in the conversation if it was rated as being one of the two most intensively discussed drugs. Cigarettes were salient in 41 interventions, alcohol in 42, cannabis in 87 and stimulant drugs in 16. For 23 participants only one drug, cannabis, was discussed in any depth, usually because it was the only drug used. Although some conversations involved the possible consequences of using drugs which have been ceased or not yet tried, most discussions were of currently used drugs. Finally, cigarette smoking was discussed with a total of 57 participants; drinking with 61; cannabis use with 99; stimulant drug use with 31; and other illegal drug use with 2 participants.

The quality of self-motivational statements (SMSs) in five areas was rated on a four-point scale: a score of zero involved none being made; a score of one indicating the making of one distinct SMS; a score of two being given when a number of different SMSs had been made in the area concerned, evidencing successful reflection; and a score of three being given when the subject had undertaken a thorough motivational

self-evaluation. To the four areas identified in the literature on alcohol problems (problem recognition, concern expression, recognition of a need for change, optimism about change), a fifth was added; personalised risk awareness. The results are presented in the table below, with number of participants in the cells.

Table 6.11

SMS Score	0	1	2	3
Risk	1	41	46	17
Problem	5	35	42	23
Concern	23	44	30	8
Change	30	44	26	5
Optimism	67	22	13	3

It will be seen from the table that the majority of participants made SMSs in all areas bar optimism about change. Noting the infrequent use of strategy 8 (exploring concerns), it is interesting that only just over half of 65 "problem recognisers" go on to make more than one SMS of concern. However, there are substantial proportions who make a single distinct SMS of concern (and for change also) and these may have been repeated or expanded upon without eliciting further distinct SMSs .

Motivational status/stage of change was assessed at the conclusion of the intervention. Twenty-nine recipients were assessed as pre-contemplators, 51 as contemplators, 14 in determination, 9 in action and one in maintenance (one missing).

Three process variables were scored on a five-point scale where three was the anticipated mean/average value. The intention was to identify deviations from what was expected for these variables; quality of working alliance, level of resistance observed and level of directiveness in intervention delivery style. The observed data are presented in the table below, with higher scores representing better or more (numbers in cells are recipients).

Table 6.12

Score:	1	2	3	4	5
Quality of Working Alliance	2	33	41	25	3
Level of Resistance	4	23	39	35	3
Directiveness	1	3	81	18	1

Quality of Working Alliance and Level of Resistance conformed to the intended pattern. Levels of resistance were generally low (as had been hoped) and most recipients were well engaged by the intervention. Directiveness has proven more problematic to capture. Whilst the high proportion scoring three appears to represent a general consistency of style, it has not been possible to identify interactions which were more client-centred than usual. That it was easier to identify interactions which were more directive is probably explained by self-consciousness in departing from the usual style.

Similarly, a self-rating of the quality of intervention delivery was scored on a 9-point scale. This time some skewness was apparent. Forty-two interventions were rated as better than average, 32 as average (score 5) and 27 as worse than average (4 missing).

Three sets of predictions were made on a five-point scale, on the basis of the conduct of the intervention. Among those intending to or talking about change, 20 were thought more likely to succeed, 22 equally likely, and thirteen less likely to succeed. The effect of the intervention on the individual was estimated as average for 39 participants, above average for 20 and below for 45. Environmental or other factors which were thought likely to constrain the impact of the intervention were rated as follows. Forty-eight participants were thought to be at above average environmental risk, 34 at average and 22 below average (1 missing). Finally, a global estimate of drug consumption was made. It was predicted that 58 recipients would be using around the same number and amount of drugs, 38 would decrease and 9 increase.

6.7.2. Study of the Relationship Between Process Data & Selected Outcomes

Cigarette smoking, alcohol consumption and cannabis use continuous data were selected to study whether it was possible to predict outcomes on the basis of what had taken place during intervention. The baseline consumption measure and ethnic group were initially included in all models.

Principal components analysis of five types of self-motivational statements yielded two components with eigen values in excess of 1 (high levels of all types of self motivational statements [SMS1] and high levels of risk reduction and problem recognition statements and low levels of change statements [SMS2]). These were included along with other variables as collected. A total of thirty process variables were considered, necessitating a data reduction strategy, given that n=97. Three distinct modelling strategies were

used.

In the simplest method (A), all 30 variables were included in a model and a stepwise backward elimination procedure (p=0.1) was used to identify predictors of outcome. An important limitation to this method is that statistical power constraints entail a possibility that potentially influential predictor variables may be eliminated from the model.

In the second approach (B), three blocks of variables comprising similar data types were modelled separately to identify apparently influential data using the same stepwise procedures as above. These were then entered together and backward elimination again used to arrive at a final model. The likely limitation of this method centres on correlation within the blocks used - again fewer variables are likely to be identified.

Lastly, a principal components analysis was undertaken of the entire dataset (method C). Ten principal components were retained and included in outcome models with the same stepwise procedures used to select variables. The interpretation of components used may be problematic in this approach and comments are made below on standardised scores above +/-0.2 for reasons of clarity of presentation.

Examination of the variance in outcomes was undertaken (see table below) to compare the results of the three approaches, against the basic model (baseline measure and ethnic group). All three methods demonstrate that outcome variance is attributable to process factors, but this is most successful using method A.

Table 6.13: R squared statistics

n=97	Basic Model	Method A	Method B	Method C
Cigarette Use	0.49	0.62	0.56	0.52
Alcohol Use	0.30	0.56	0.32	0.31
Cannabis Use	0.22	0.36	0.36	0.30

6.7.3. Associations Between Cigarette Smoking & Process Data

Method A identifies 12 variables, 11 of which are statistically significant and 1 is borderline (see table below).

Table 6.14

Cigarette Smoking	R=	P-value	Beta
Use of Topic 2 (n=17)	17.16	0.037	0.189
Use of Topic 3 (n=7)	14.35	0.001	0.11
Use of Topic 10 (n=6)	26.78	0.027	0.191
Use of Topic 12 (n=50)	9.17	0.039	0.136
Use of Topic 13 (n=17)	20.65	0.001	0.227
Salience of Cigarette Smoking (n=41)	9.92	0.024	0.144
Salience of Stimulant Use (n=16)	13.23	0.009	0.134
No Cigarette Change Discussion (n=74)	17.77	0.008	0.241
Discussion of Cannabis Change (n=36)	12.37	0.025	0.176
Resistance (lower)	6.21	0.012	0.168
Predicted Effect (lower)	9.33	0.013	0.22
Venue (college)	10.86	0.049	0.116

As with the succeeding analyses, method B identifies only variables included by method A (receipt of topics 2, 3, 12 & 13).

Using Method C, the ninth principal component, with which 4% of the total variance was also associated (cumulative 68%), resembled the following: receipt of topic 2 (0.27), topic 7 (0.27) and non-receipt of topic 11 (0.27); non-college venue (0.41); non-salience of alcohol (0.28); salience of stimulant drug use (0.30); less risk and problem recognition and more change-oriented self motivational statements (0.39); higher estimate of post-intervention drug consumption in general (0.31).

6.7.4. Associations Between Alcohol Consumption & Process Data

Method A identifies 13 process variables, 7 of which are clearly statistically significant, 3 of which are borderline and 3 of which are not (see table 7.15). Method B identifies only discussion of change of cigarette smoking.

Method C identifies receipt of topics 2 (0.31), 3 (0.34) and 10 (0.36); salience of cigarette smoking (0.38); higher environmental risk (0.22); discussion of change in cigarette smoking (0.42) and in alcohol consumption (0.21) and the absence of discussion of change in cannabis use (0.22) as process characteristics associated with reduced drinking. These were identified in the eighth principal component which is associated with 4% of the variance (cumulative 64%)

Table 6.15

Alcohol Consumption	R=	P-value	Beta
SMS1 (Unlike)	1.78	0.052	0.248
Time (shorter)	0.40	0.031	0.377
Stage of Change (higher)	4.85	0.003	0.384
Quality of Delivery (higher)	1.54	0.002	0.220
Discussion of Cigarette Change (n=31)	6.30	0.005	0.249
Use of Topic 7 (n=21)	4.74	0.043	0.165
Use of Topic 8 (n=8)	8.72	0.066	0.181
Non-Use of Topic 9 (n=86)	3.70	0.044	0.124
Use of Topic 10 (n=6)	8.33	0.082	0.173
Use of Topic 11 (n=46)	3.35	0.083	0.144
Directiveness (Less)	8.40	0.005	0.370
Predicted Effect (lower)	2.74	0.004	0.187
Environmental Risk (higher)	2.99	0.027	0.225

6.7.5. Associations Between Cannabis Use Frequency & Process Data

Methods A & B arrive at the same model for cannabis use, which identifies four process variables (and includes the baseline measure but not ethnic group in the final model) and is summarised in the table below.

Using method C, similarity with the first principal component (which accounted for 17% of variance) predicted reduced cannabis use (scoring coefficients in brackets). Main characteristics were; time was longer (0.22); cigarette smoking was salient (0.22) and

change discussed (0.24); high levels of all self motivational statements (SMS1) were made (0.36); quality of delivery was highly rated (0.25), as was quality of the working alliance (0.33); low levels of resistance were observed (0.29); post-intervention motivational stage of change was highly rated (0.32); and an intervention effect was predicted (0.33). The salience of cigarette smoking in discussion and quality of working alliance are identified as a predictor of lower cannabis use frequency in all three analyses, as is either aspect of self-motivational discourse.

Table 6.16

Frequency of Cannabis Use	R=	P-value	Beta
SMS2 (Unlike)	1.55	0.013	0.215
Quality of Working Alliance (higher)	1.15	0.007	0.128
Salience of Cigarette Smoking (n=41)	4.35	0.005	0.275
Use of Topic 10 (n=6)	3.96	0.001	0.123

6.8. Feedback from Intervention Recipients

At the conclusion of the intervention, recipients were invited to complete a 10-item feedback questionnaire (see appendix 8), based largely on the work of Marlatt et al. (1998). It was decided not to anonymise these data, so that they could be related to individual outcomes.

6.8.1. Feedback Data

These data were extremely positive (as were those of Marlatt et al.). Possibly, recipients may have expected that these data would be viewed by the worker and hence may have been especially vulnerable to unreliable reporting. In light of the foregoing, these data will now be initially considered comparatively. The first seven items were scored 1 - 7 ('not at all' to 'very much'). These data are presented in the table 6.17.

Table 6.17

Score	1	2	3	4	5	6	7
Enjoyed	0	0	2	9	21	41	32
Interest	0	0	1	4	19	39	42
Useful	0	0	5	12	23	34	31
Effect	16	11	12	10	21	23	12
Empathy	1	0	1	15	21	34	31
Informative	1	0	0	3	13	24	64
Easy to Talk	0	0	1	2	10	20	72

The intervention appears to have been more interesting than enjoyable or useful and

there is an encouraging spectrum of views on anticipated effects. The delivery was generally successful in making it easy to talk, with the worker appearing more well informed than empathic.

There were three Likert Scale items: 1. The interviewer really knew what he was talking about. 2. Offering a service like this could be helpful to young people who use drugs. 3. I would recommend this to a friend.

Ninety-eight per cent agreed or strongly agreed with the first statement, 90% agreed or agreed strongly with the second, 89% agreed or strongly agreed with the third of these statements.

At follow-up, the 97 participants who had received the intervention were asked how helpful they had found the intervention in relation to different areas (see follow-up instrument, appendix 7). This was done again using a seven point scale ('not at all' to 'very helpful'). There were no differences in scores reported between two interviewers, one of whom was independent of the intervention on any of these variables according to t-tests.

Those who received self-monitoring and other information on paper were also asked how helpful this had been. Twenty-nine scored this above the mid-point of 4, 4 scored 4 with the reminder scoring this below 4.

Table 6.18

Score:	1	2	3	4	5	6	7
Risk	4	4	0	8	24	37	20
Problems	5	1	1	13	24	34	19
Concerns	2	3	6	16	33	26	11
Change	4	5	4	10	20	25	29
Confidence	8	4	4	13	22	27	19
Overall effect	15	7	8	9	27	16	15

6.8.2. Associations Between Feedback Data & Outcomes

The ten feedback items collected immediately post-intervention were tested as predictors of the cigarette smoking, drinking and cannabis use continuous outcomes. Initially all ten were entered into a model without any other variables. These were observed to successfully predict amounts of cigarette use and alcohol consumption three months later (see below), but not frequency of cannabis use. The six intervention feedback items collected at follow-up interview were found to predict cigarette use, but not alcohol nor cannabis use at that time.

In the case of cigarette smoking, 9.4% of the variance was accounted for by the baseline feedback data alone ($F=4.32$, $p=0.0056$). When these feedback items were added to the basic model (baseline cigarette smoking and ethnic group), stepwise backward elimination resulted in one variable being selected; likely effect of the

intervention (r=2.73, p=0.032). The six follow-up feedback items alone predicted 5.7% of the variance in this outcome (F=6.09, p=0.0021). When entered into the basic model, one variable was again selected; improvement of confidence to change if necessary (r=4.02, p=0.012). Both these variables were positively correlated, so that the greater the anticipated effect/improved confidence, the higher cigarette smoking proved to be.

Alcohol consumption was similarly predicted by the ten feedback data items collected immediately post-intervention alone, but not by the data collected at follow-up. More of the variance (15.2%) was accounted for by these data (F=3.3, p=0.0184) for drinking than for cigarette smoking, and one item, whether one would recommend the intervention to a friend, was statistically significant alone (r=4.0, p=0.041).

When added to the basic model, this item and two others; how valuable this provision for young people was viewed and how easy it was to talk during intervention, were retained. Of these latter two variables, perception of value of provision was not significant (r=1.78, p=0.095), whilst ease of talking was (r=2.47, p=0.008). This, like the cigarette smoking variables identified was positively correlated with more consumption, but whether recommendation would be made to a friend was negatively correlated. On average, movement from one point to the next on the Likert scale is associated with drinking three units more/less alcohol (r=3.31, p=0.006): So that those who answered "don't know " were drinking 6.6 units more alcohol than those who strongly agreed with the statement, three months later.

6.8.3. Qualitative Data

At follow-up interview, the intervention group were asked the following question on the intervention: What effect, if any, did the interview have on you? This section shall draw heavily upon the words of the participants themselves in describing their experience to construct a qualitative account of the impact of the intervention, informed also by recall of intervention delivery.

A cognitive and/or motivational impact is evident in the responses of the majority. For some, the detail of this is not elaborated, for example, participant number 13 stated that it "made me think more about it" (13). For others, three sub-types of cognitive-motivational effect are discernible; a) drug consumption assessment; b) risk recognition and management; and c) life context evaluation.

a) *Drug consumption assessment* benefits are those which may be expected to be associated with any carefully focused reflection on levels of consumption. They are exemplified when recipients express surprise at how much is consumed or an intention to further contemplate:

"Makes me aware of just how much I really smoke" (78)

"Made me think about how much I use drugs. Made me really think about it." (80)

b)) *Risk recognition and management* effects are apparent in the words of the individuals themselves in distinct ways:

"Made me realise to cut down a lot and smoking aint really that good" (114)

"Made me realise the value of writing things down - Lets you look back" (17)

"Good to talk to stranger. Made me take stock. Made me a conscientious drug user, not gung ho, more thoughtful" (42)

c) *Life context evaluation* of drug use approximates most closely the distinctive motivational interviewing aspiration of the brief intervention. A sense of time passing, education, family, money and sports were all cited as motivational sources. The words of a number of individuals capture this hypothesised impact:

"Yes. Made me think more about goals and how drugs can set you back" (9)

"Made me realise I could be doing the same as now in a year's time - a scary thought. Helped me think about college and family" (33)

"Made me think a lot about myself and what I wanted out of life" (76)

"Made me think this year was useless and I better start doing something with my life" (138)

"Made me see things in a different perspective. Made me more or less decide it's either the drugs or education. It made me see the problems I would get from drug abuse" (152)

The outcome of reflection of these types doesn't necessarily lead to any change in drug use, as described by participant 84:

"Had to think about answers to questions. Made me think about my own actions, question my situation and whether I'm comfortable about it. Happy about situation, comfortable with it, no need to change"

A concern to limit involvement in drug use is apparent in a number of comments which refer to decisions to avoid use of drugs not previously used.

"Knew not going to stop. Prevented me from smoking heroin and crack." (69)

Others are clearly already heavily involved in drug use and consideration of major change a consequence:

"Made me think about how I have to change my life - not because you say so because I want to. You can't chat to friends as all they do is encourage you more. Holding it in doesn't help, getting it off my chest does" (158)

"Basically it was like a shock. Need to put my life back in focus, what my life would be like in ten years. It made me sit down and think about my future and it was a shock" (159)

Two other types of effect were also detected among some participants. Whilst, there are informational and affective dimensions to the cognitive and motivational effects described above, for some, these appeared to be the primary effects:

"Made me think more about alcohol as being a drug rather than something just done socially - more risks attached now" (127)

"Helped me understand dangers of using" (28)

"Helped very much, just by talking to someone" (136)

You wouldn't talk to someone you know like this. You can let it all out. Just tell them.

Made me think a lot" (107)

The dataset comprising both direct and indirect quotation is included as an appendix. Comments are there presented in two sections, one for each interviewer, though there are no obvious differences between the data collected by each interviewer. Little or no intervention impact was declared by an encouraging proportion (in the sense that it was not difficult to declare this) of participants and an adverse impact reported by one person;

"Kind of made me feel guilty. Questions make you feel like drugs are wrong." (153)

Some limitations to these qualitative data are noteworthy. This question was asked after all the quantitative data questions had all been asked, most of which are closed questions. Responses tended in general to be brief and not expansive. Another question had been asked on whether and how drug use had changed during the study period. Much information had been already volunteered on this subject and the data recorded at this point rather limited. As a consequence, insights into how the intervention has interacted with changing circumstances to influence drug use are limited.

Notwithstanding this observation, the words of one participant appear to summarise well the apparent achievement of the intended effect, at least, among some of the intervention group:

"You don't question it beforehand, you just do it. That makes you question it - how right it is for you."

6.9 Interviewer Effects

The final non-experimental data to be considered concerns whether there is any variation in outcomes between the two interviewers who conducted the follow-up interviewing. Most (n=148) interviews were undertaken by the author, who had also delivered all interventions. It was deemed desirable, for both scientific and practical reasons, to employ a second interviewer. Four interviews took place with both interviewers present, and 27 were conducted by the second interviewer alone. Allocation of interviewer was not randomly assigned and was determined in light of practical considerations and an intention that the majority of interviews conducted by the second interviewer should be with the intervention group (for which potential reliability concerns were heightened). Twenty of the intervention group and 7 from the control group were assigned to the second interviewer, and these 27 interviews were contrasted with the 152 interviews in which the author was present.

In eighty-seven outcomes, interviewer was retained in 13 final models selected by stepwise backward elimination. Of these 5 did not approach statistical significance and were retained by virtue of the criterion used. There were statistically significant differences between interviewers for 8 outcomes after controlling for other potential confounders.

Five of these outcomes evidence lower risk being reported to the second interviewer, and three higher risk (the first three below). These are summarised in table 6.20 which reports the regression coefficient for interviewer.

Table 6.19

OUTCOME	REGRESSION COEFFICIENT	P-VALUE
Presence at injecting drug use	OR=0.04	0.014
Days absent from college/work	r=4.30	0.032
Positivity to drug use	r=1.31	0.002
Nicotine dependence	r=1.86	0.012
Cannabis dependence	r=1.55	0.006
Any alcohol-related interactional problems	OR=0.4	0.01
No of drugs intended to use (12 months)	r=0.56	0.044
Current use of other illicit drugs	OR=0.15	0.03

On three of these outcomes (nicotine dependence, intended number of drugs to be used 12 months later, and current use of other illicit drugs) differences between the intervention and control groups were observed (after controlling for interviewer and other potential confounders). The regression coefficients indicate the mean size of the differences between interviewers. It should be noted also that the numbers involved are small in the cases of the binary outcomes (either two or three individuals reporting presence at injecting drug use, alcohol-related interactional problems and current use of other illicit drugs to the second interviewer).

Summary

This chapter has considered many data which are of interest both in their own terms and in preparation for the experimental comparison between intervention and control groups. The study population as a whole has been examined as have the effects of attrition and the equivalence of the two groups. A prima facie case for the observation of change attributable to the intervention has been made through scrutiny of individual level data and the establishment of relationships between elements of intervention and cigarette, alcohol and cannabis use outcomes. It remains to be seen through direct comparison of these and other outcomes whether these data are in fact explained by the experimental manipulation.

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Synopsis

An introductory overview of the main findings relating to the efficacy of the intervention as revealed by comparative scrutiny of outcomes for the intervention and control groups is presented. Thereafter the presentation of outcomes is structured as follows: There are four drug-specific sections; Cigarette smoking (section 7.2); Alcohol consumption (section 7.3); Cannabis use (section 7.4); Stimulant and other drug use (section 7.5). In each of these, outcomes are presented for intervention and control groups in terms of; changes in various use categories; changes in prevalence of use within the study conditions as a whole, reflecting initiation and cessation events; changes in mean frequencies or quantities of use; a range of outcomes related to changing patterns of use of each drug. There follows two sections on risk; Psychological aspects of risk (section 7.6); Interactional risk (section 7.7); and two further sections. In the first of these, consideration is given to the uniformity of effects observed for three selected outcomes (quantity/frequency measures of cigarette smoking, alcohol consumption and cannabis smoking in section 7.8). Finally, a summary statement of the results as a whole is presented to conclude the chapter (section 7.9).

Introduction

The decision taken at an earlier point not to pre-specify a single predominant outcome, nor any small number of such, nor indeed any hierarchy of outcomes with which to evaluate efficacy, is a worthy starting point. This was taken (among other things) in light of the interactive and flexible nature of the intervention content and objectives, as well as the paucity of data on the nature of the intended change in the target population.

Two central and related implications of this decision are important to explicate in relation to outcome data: 1. Individual outcomes should be evaluated in the context of an overall assessment of potential change options of each individual. 2. Efficacy of the intervention should be inferred not in relation to particular outcomes in isolation from consideration of others, but through an overall assessment of the range of outcomes studied.

Two types of outcome were specified a priori: 1. Direct evidence of change in drug use behaviours themselves. 2. Indirect evidence from which change in risk is inferred involving changes in drug-specific, psychological and interactional factors.

7.1. Overview

Across the three drug use behaviours which were prevalent in the majority of the sample (cigarette smoking, drinking alcohol and cannabis use), a number of consistent differences between the two groups were observed. In general the main finding is that these relate to reductions in consumption rather than in achieved abstinence. For all three of these drugs, at least one drug-specific non-consumption difference in outcome was observed. It has also been possible to identify factors indicative of elevated or diminished change in the use of these three drugs.

In general, the small numbers using both stimulant and other illicit drugs and the low extent of their use permit only very limited scrutiny of any hypothesised effect. In relation to stimulant drug use, relatively minor differences are observed between the groups. These cannot be robustly attributed to intervention. An effect on other illicit drug use is apparent on one outcome; current use of drugs other than those already identified. Future drug use intentions in respect of involvement with a range of drugs differed in the two groups.

There were widespread differences in reported decisions to cut down or stop taking particular drugs and in general. However, there was no interaction found between the making of any such decision and the drug use outcomes above. In most psychological variables thought to be indicative of risk, no differences were observed. Level of enjoyment of & satisfaction with personal drug use, satisfaction with other life areas & general well-being were similar in both groups. So too was attitudinal positivity to drug

use in general, and also views on the safety of six high-risk drugs.

There were a number of interactional behavioural differences between the groups including being present at heroin smoking after intervention, recent frequency of nightclubbing and drug-selling to friends. In most interactional outcomes, ,no differences were found, including in being offered heroin, frequency of going to pubs and being in the presence of injecting drug use. The same was also true for drug-selling to people who were not friends,, drug-motivated acquisitive crime and being arrested while intoxicated.

Few differences were found between those receiving the intervention and those not, on a wide range of drug specific and interactional problem measures, including dependence. In two differences observed, higher levels of interactional problems of all types and specifically with parents or other family members were attributed to personal drug use.

No group differences were found in the number of days absent from college nor on a measure of drug-related educational harm, nor on visits to doctors. Likewise in most interactional outcomes no differences were found, including in being offered heroin, frequency of going to pubs & being in the presence of injecting drug use. The same was true for drug selling to people who were not friends, drug-motivated acquisitive crime and being arrested while intoxicated.

7.2. Cigarette Smoking Outcomes

7.2.1. Changes in Cigarette Smoking

The proportions of smokers in both groups before and after intervention are presented in the table below. The overall cigarette smoking profile of the control group was relatively static, with some movement among formerly non-daily smokers taking up cigarette smoking on a daily basis. In contrast, in the intervention group, there appears to be more substantial movement in the opposite direction (away from smoking).

Table 7.1: Proportions of Users

	BEFORE		AFTER	
	CONTROL	INTER	CONTROL	INTER
Current non-smokers	23% (n=19)	22% (n=21)	24% (n=20)	38% (n=37)
Non-daily smokers	16% (n=13)	27% (n=26)	11% (n=9)	15% (n=15)
Daily smokers	61% (n=50)	52% (n=50)	65% (n=53)	46% (n=45)

The control group as a whole increased its cigarette smoking over the three-month study period by just over 12%, from a mean of 35.0 to 39.4 cigarettes per week. The intervention group decreased by 21% on this measure, from 31.9 to 25.2 cigarettes per. After adjusting for potential confounders, the difference in the group means changes little, resulting in a significant difference between the control and intervention groups in the mean number of cigarettes smoked per week at follow-up (r=13.37, p=0.009).

Changes in mean scores potentially result from initiation, cessation or reductions or increases in use among ongoing users. Of the 40 who were not current cigarette

smokers at study entry, an equal number, 4 from each group, commenced cigarette smoking during the subsequent 3 months. Of the 139 cigarette smokers at baseline, 19 of the 76 in the intervention group stopped smoking, compared to 5 of the 63 in the control group (chi-sq. 7.02, 1 df, p=0.008). . Eight of those in the intervention group had been daily smokers and 11 formerly non-daily smokers.

When the prevalence of cigarette smoking is modelled to assess the combined changes in initiation and cessation among the retained sample as a whole, the difference between the groups is non-significant (OR=0.45, p=0.085). When considering cessation alone, among the 139 baseline smokers, this result did not reach statistical significance at the 5% level (OR=0.36, p=0.056). In both cases, subjects in the intervention group are more than twice as likely to have ceased cigarette smoking.

There was little difference in the mean frequency of cigarette smoking when considering change amongst continuing smokers only (i.e. those who were smoking both at entry to the study and at follow-up). Among the 115 continuing smokers, the intervention group decreased their amount consumed from 47.7 to 41.7 cigarettes per week whilst the control group increased from 44.9 to 51.0 cigarettes per week. The adjusted mean difference between the two groups among ongoing smokers only is 11.25 (p=0.03).

7.2.2. Other Cigarette Smoking Outcomes

The only other 'before and after' outcome which was studied was the making of a

decision to stop or cut down cigarette smoking (both collected at follow-up, see chapter 5). Those receiving the intervention were more than twice as likely to report that they had made such a decision during the study period, but the adjusted difference between the groups was not statistically significant (intervention group 33% [n=32], control 18% [n=15], OR=2.1, p=0.067).

Outcome measures of dependence and interactional problems were controlled for baseline consumption and pan-drug interactional problems respectively (see chapter 5). Among those smoking cigarettes at follow-up (n=123), the mean Severity of Dependence Scale score for the intervention group was 5.1, compared to 6.4 for the control group. The difference in adjusted mean scores in excess of one point is statistically significant (r=1.34, p=0.006) and is consistent with the reduced levels of ongoing smoking reported above.

Only 12 (12%) intervention recipients and 15 (18%) from the control group reported any interactional problems caused by cigarette smoking. There were no significant differences between the two groups, both in whether they had any cigarette-related interactional problems (OR=1.67, NS), nor in the total number of such problems (r=0.1, NS).

The assessment of remaining outcomes did not involve baseline covariate adjustment (chapter 5). Those smoking at follow-up (n=123) were asked to rate how important their cigarette use was to them on a seven-point scale. On this measure, the control

group mean score was 3.5 and the intervention group 2.8. The adjusted mean difference between the groups, of just under two thirds of a point, does not reach statistical significance (r=0.63, p=0.055).

Participants were also asked to rate how problematic was their use of each drug, on a five point scale. The mean scores were 2.35 for the intervention group and 2.98 for the control group. This resulted in an adjusted mean difference of almost half a point among ongoing smokers (n=123, r=0.46, p=0.032).

Only 37% of the entire outcome sample and 54% of current smokers reported an intention to be smoking cigarettes twelve months later. This comprised 30% (n=29) in the intervention group, and 45% (n=37) in the control group. This difference between the two groups was not statistically significant (OR=0.98, NS).

Table 7.2

CIGARETTE SMOKING		
	Regression Coefficient	P-VALUE
Usual weekly consumption	r=13.37	0.009
Prevalence	OR=0.45	0.085
Cessation	OR=0.36	0.056
Decisions to cut down or stop	OR=2.1	0.067
Dependence	r=1.34	0.006
Any interactional problems	OR=1.67	NS
No of interactional problems	r=0.1	NS
Importance	r=0.63	0.055
Problem identification	r=0.46	0.032
Future intentions	OR=0.98	NS

7.3. Alcohol Outcomes

7.3.1. Changes in Alcohol Consumption

The proportions of drinkers in three consumption categories in the intervention and control groups before and after intervention are presented in the table below. The control group has a higher proportion of participants who were not drinking at study entry whilst the intervention group had more infrequent drinkers. The differences in proportions observed prior to intervention was not statistically significant (chi-sq. 4.8, 2 df, p=0.09).

Table 7.3 Proportions of Users

	BEFORE		AFTER	
	CONTROL	INTER	CONTROL	INTER
Current non-drinkers	21% (n=17)	11% (n=11)	7% (n=6)	18% (n=17)
Non-weekly drinkers	32% (n=26)	45% (n=44)	40% (n=33)	35% (n=34)
Weekly drinkers	48% (n=39)	43% (n=42)	52% (n=43)	47% (n=46)

In both groups there is a similar increase in the proportion of weekly drinkers, but the most noteworthy changes appear in respect of the other two categories. The proportion of those 'not drinking' in the control group has declined markedly, whilst a change in the opposite direction has taken place in the intervention group. A proportion of intervention recipients who were drinking less than weekly have discontinued their drinking.

The two groups had consumed the same number of units of alcohol in the week before

study entry (mean of 12.7 units). Amongst the control group as a whole, the mean number of alcohol units increased by 12% from 12.7 to 14.2 units in the week before follow-up interview, whilst in the intervention group there was a decrease of 39% from 12.7 to a mean of 7.7 units in the previous week (see chart below). When controlling for potential confounders, the adjusted difference in the means falls to just below six units (r=5.71, p=0.002).

There were 28 non-drinkers at baseline, 11 in the intervention group and 17 in the control group. Of these, one person in the intervention group and 12 of the controls initiated drinking in the following three months (chi-sq. 10.15, 1 df, p=0.001). Of these, 9 became less than weekly drinkers and 3 became weekly drinkers. Among the 151 current drinkers at baseline, 7 of the 86 (8%) in the intervention group, and 1 of the 65 (1%) in the control group discontinued their drinking - a difference which was not statistically significant (chi-sq. 3.21, 1 df, p=0.073). Of the 7 intervention recipients who had ceased drinking alcohol, one had been a weekly drinker and the other six had previously drank less than weekly.

When initiation and cessation are considered together (n=179), the intervention group are found to be significantly more likely not to be drinking alcohol at follow-up (OR=0.07, p=0.025). When cessation is studied as an outcome among the 151 drinkers at baseline, there is no significant difference between the groups.

The initiation and cessation data described above have one further feature worthy of

note; ethnic patterning. No White drinkers at baseline ceased drinking during the study period, whilst both the two White non-drinkers initiated drinking (so that all are currently drinking at follow-up). Eight of the 19 Black non-drinkers at baseline initiated drinking and 8 who were drinking at study entry also stopped. Three of the seven Asian non-drinkers at baseline initiated alcohol use and none stopped.

Again, there is little difference between the aggregate consumption comparison and the between-group comparison with analysis restricted to the 143 ongoing drinkers. The ongoing drinkers amongst the intervention group reduced their levels of consumption from 14.7 to 9.3 units per week, whilst the ongoing drinkers amongst the control group increased from 16.0 to 17.6 units per week. Overall, the intervention group were drinking 6.89 units ($p=0.002$) less alcohol in the week prior to follow-up interview, among the 143 drinking at both assessment points.

7.3.2. Other Alcohol Outcomes

In terms of making decisions to cut down or stop drinking, 5 individuals in the control group (6%) did so, compared to 22 (23%) in the intervention group. Those receiving the intervention were approximately six and a half times more likely to have made a decision to cut down or stop in the three months after the intervention (OR=6.4, $p<0.0001$), after controlling for baseline and other relevant variables.

Levels of alcohol dependence, as measured by the Severity of Dependence Scale, were low, with observed mean scores among those drinking at follow-up of 1.6, and

only 15% of drinkers scoring above three, in both groups. There was no difference between the two groups (r=0.18, NS). Similarly, with interactional problems caused by drinking, 21 participants in each group (22% intervention group; 26% control group) identified any such problems (OR=1.53, NS), and identified similar numbers of problems. In terms of problem identification, the means for the two groups were similar (1.9 on five point scale, averaging "not really").

A difference between the two groups was observed in relation to the subjective importance of alcohol. On the seven point scale, the control group reported a mean of 3.1 and the intervention group 2.7 among those drinking at follow-up. After controlling for relevant variables, alcohol was reported to be less important to the intervention group than the control group by approximately half a point (r=0.51, p=0.002).

A higher proportion of the control group as a whole (79% [n=65] compared to 60% [n=58] of the intervention group) reported an intention to be drinking alcohol 12 months later. This difference between the groups proved not to be significant (OR=0.52, NS).

Table 7.4

ALCOHOL CONSUMPTION		
	Regression Coefficient	P-VALUE
Recent Consumption volume	r=5.9	0.003
Prevalence	OR=0.07	0.025
Cessation	/	NS
Decisions to cut down or stop	OR=6.4	p<0.0001
Dependence	0.18	NS
Any interactional problems	OR=1.53	NS
No of interactional problems	/	NS
Importance	r=0.51	p=0.002
Problem identification	/	NS
Future intentions	OR=0.52	NS

7.4. Cannabis Use Outcomes

7.4.1. Changes in Cannabis Use

The proportion of the control group smoking infrequently declined by almost a half, whilst there were small increases across the other categories (see table below). In contrast, in the intervention group, there has been a relatively large increase in the proportion no longer smoking and a relatively large decrease in those who smoke on a daily or near daily basis.

Table 7.5

	BEFORE		AFTER	
	CONTROL	INTER	CONTROL	INTER
Current non-smokers	2% (n=2)	2% (n=2)	5% (n=4)	17% (n=16)
Monthly or less smokers	22% (n=18)	13% (n=13)	12% (n=10)	11% (n=11)
Weekly smokers	28% (n=23)	35% (n=34)	31% (n=25)	37% (n=36)
Daily or near-daily smokers	48% (n=39)	50% (n=48)	52% (n=43)	35% (n=34)

The mean frequency of cannabis use declined by 66% in the intervention group as a whole from 15.7 times per week to 5.4. By contrast, there was an increase of 27% in the control group, from 13.3 to 16.9 (see chart below). The difference in the two group means adjusted for baseline and potentially confounding variables remained similar ($r=11.54$, $p<0.0001$).

Virtually all of the subjects (98% in both intervention and control groups) were current cannabis smokers at baseline, and the remaining four (two in each group) all initiated

cannabis use in the following three months. By the time of the three-month follow-up, 16 of the 97 (16%) in the intervention group had discontinued their cannabis use compared to only 4 of 82 (5%) in the control group (chi-sq. 6.04, 1 df, p=0.014).

In the basic model incorporating only intervention condition, whether smoking cannabis or not at baseline and ethnicity, this observed difference between the groups was statistically significant (OR=0.29, p=0.031). However when potential confounders were investigated, it was found that this difference cannot be robustly attributed to the intervention. Intention not to be using cannabis 12 months later (which was not equivalently distributed between groups) proved to be a strong predictor (OR=4.69, p<0.0001).

A similar picture emerges in respect of weekly (as an indicator of regular) use. In the basic model, the intervention effect does not reach statistical significance (OR=0.39, p=0.053) when this outcome is dichotomized. When controlling for potential confounders, the estimate of the intervention effect reduces (OR=0.54, NS). The picture changes when one considers heavy use, defined as smoking every day or most days. Here adjusting for other variables makes little difference to the result (basic model OR=0.36, p=0.008, adjusted model OR=0.33, p=0.005).

As with the previous drugs, when the differences in mean frequencies are examined for a restricted sample of only those who were ongoing cannabis smokers, the differences were found to be similar to those reported above for the entire sample (r=12.78,

p<0.0001). The mean weekly frequency of the intervention group reduced from 18.0 to 6.6, whilst that of the control group increased from 13.9 to 18.2 on this measure.

To compare the effect of the intervention in reducing the extent of cannabis use with the observed reductions in cigarette smoking and alcohol consumption, the outcomes were standardised. The intervention effect was found to be much larger for cannabis (0.75 [0.45-1.0]), than for alcohol (0.37 [0.15-0.6]) or cigarette use (0.34 [0.09-0.59]).

Two other consumption variables were collected post-intervention only for cannabis use. These were 'usual quantity' consumed in a given period and number of days abstinent in the past month. They correlate reasonably highly with 'frequency' of cannabis use (quantity/frequency r=0.67; days abstinent/frequency r=0.66).

On both outcomes, the differences between the groups were significant but not as proportionately large as the 'frequency' measure. On the 'usual quantity' measure, subjects in the intervention group were smoking just over 40% less. This difference between the groups was approximately one-eighth of an ounce in weight (r=0.12, p=0.031). With regard to days without any use, the intervention group smoked cannabis on average 20% (4 days a month) less (r=4.13, p=0.008).

It had also been intended to control for usual type of cannabis smoked. There was some difficulty with missing data on this variable as the same names (it transpired later in fieldwork) appear to be used for different types of cannabis by different people, in

different places. This makes little difference to the frequency of use outcome (n=160, r=12.6, p<0.001), nor the abstinent days outcome (r=3.56, p=0.022).On the quantity outcome, the difference between the groups falls short of statistical significance when additionally controlling for type, although the differences in the means remains similar (n=135 out of 157 users at follow-up, r=0.12, p=0.053).

7.4.2. Other Cannabis Outcomes

High levels of decisions to stop or cut down were reported in both groups (75% [n=73] of the intervention group and 44% [n=36] of the control group) during the three month study period. Those receiving the intervention were approximately three and a half times as likely to make such a decision (OR=3.53, p=0.008) after adjusting for baseline and other potential confounders.

Another difference between the two groups as a whole was observed in relation to future cannabis use intentions. Forty-five per cent (n=44) of the intervention group intended not to be using cannabis 12 months later, compared to 15% (n=12) of the control group. Adjusting for relevant variables including baseline non-equivalence on this measure, the control group were almost four times as likely to state an intention to use cannabis beyond 12 months (OR=0.27, p=0.016).

Among those continuing to smoke cannabis, the mean SDS score was 3.4 for the intervention group and 3.8 for the control group. The adjusted difference in the means, after controlling for relevant variables was slightly higher, but non-significant (r=0.63,

NS).

In terms of interactional problems caused by cannabis use, 40% (n=39) of the intervention group identified having at least one, compared to 46% of the control group (n=38). This difference was not significant (OR=1.39, NS) nor was there any difference in the number of such problems identified (r=0.13, NS)

Among ongoing cannabis users, mean scores for the control and the intervention groups were 4.1 and 3.6 respectively for the importance of their use of this drug (on seven point scale). This finding did not reach statistical significance (r=0.35, p=0.055) in differentiating the two groups in the adjusted model. In terms of problem identification, continuing users in the intervention group scored a little higher than the control group (means of 2.49 and 2.34 respectively), but this was not statistically significant.

Table 7.6

	CANNABIS USE	
	Regression Coefficient	P-VALUE
Usual Consumption frequency	r=11.54	p<0.0001
Prevalence/Cessation	/	NS
Regular Use (weekly)	OR=0.54	NS
Heavy Use (Daily/Near Daily)	OR=0.33	0.005
Usual Weekly Quantity	r=0.12	0.031
Abstinent Days	r=4.13	0.008
Decisions to cut down or stop	OR=3.53	0.008
Intention to continue using	OR=0.27	0.016
Dependence	r=0.63	NS
Any interactional problems	OR=1.39	NS
No of interactional problems	r=0.13	NS
Importance	r=0.35	0.055
Problem identification	/	NS

7.5. Stimulant and Other Drug Use Outcomes

7.5.1. Involvement in Stimulant and Other Drug Use

Of the 179 participants successfully followed-up, 83 (46%) had lifetime experience of drugs other than cannabis, alcohol or tobacco (intervention group 43% [n=42]; control group 50% [n=41]; chi-sq. 0.8, 1 df, NS). Of these 83, only three participants had never used any stimulant drugs, 20 had discontinued their stimulant drug use, 33 used stimulants on special occasions or every few months and 27 used stimulant drugs every month or more often. One third of those followed-up (n=60; intervention group 27% [n=26]; control group 41% [n=34]; chi-sq. 4.3, 1 df, p=0.038) were thus considered to be current stimulant users at study entry.

During the three-month study period, 13 participants initiated the use of illicit drugs other than cannabis for the first time. This represents 14% of the 96 who had not reported doing so previously. Of these 13, 6 belonged to the intervention group and 7 to the control group. The most common drug initiated among this group was ecstasy (n=6), then magic mushrooms (n=3), with amyl nitrite, benzodiazepines, glue, amphetamines, cocaine powder, crack, heroin and LSD also being used by one or two of these individuals.

As has been observed in chapter 6, the lifetime use of non-stimulant other drugs was much less prevalent than stimulant drug use. This was also true for ongoing use. The numbers in each group who had used each drug and drug class in the three months before and after study entry are set out in the table below (N.B. not proportions

in cells as previously). Crack, heroin, ketamine, various hallucinogenic compounds, solvents and benzodiazepines had each been used by no more than 5 participants in total in the three months either before or after study entry.

Table 7.7: Numbers of Users

	BEFORE		AFTER	
	CONTROL	INTER	CONTROL	INTER
Amphetamines	8	5	12	5
Ecstasy	21	20	26	18
Cocaine	21	17	17	10
Any Stimulant Drug	34 (41%)	26 (27%)	34 (41%)	24 (25%)
Amyl Nitrite	3	5	6	0
LSD	5	2	11	2
Magic Mushrooms	11	6	19	7
Any Non-Stimulant Drug	17 (21%)	15 (15%)	27 (33%)	11 (11%)

Current use (defined as within three month period) of any stimulant drugs was assessed among the 83 participants who had experience of illicit use other than cannabis at study entry (see chapter 6). No significant difference was observed between the intervention and control groups. Involvement in the use of non-stimulant other drugs was modelled in the same way. When controlling for baseline and other relevant variables, this difference was statistically significant, with the intervention group remaining approximately one third less likely to have used such drugs during the study period (n=83, OR=0.29, p=0.014 [also n=179, OR=0.32, p=0.042]).

Frequency of use in the intervention and control groups as a whole, or in the sub-sample of 83 baseline users of illicit drugs other than cannabis, reflects the involvement data reported above. When attention is focused on patterns of use among current users of each drug, differences in mean frequencies are observed only for ecstasy.

Among the 41 current users at baseline, 20 users in the intervention group used 3.0 times in three months prior to study entry, compared to 4.3 times on average among the 21 control group users (t=0.8, NS). Among the same 41 baseline users, mean frequencies at follow-up are 2.0 (intervention group) and 7.1 (control group) respectively (t=2.0, p=0.049). When group comparison is made between mean frequencies among those using during the study period, this difference become non-significant (means of 2.8 and 6.7 respectively, t=1.6, NS).

These differences between the two groups in mean frequency of ecstasy use were deemed worthy of further investigation. In the basic model, controlling only for ethnic group and baseline use frequency, the difference between the intervention and control groups is significant (n=83, r=1.81, p=0.044 [or n=179, r=0.94, p=0.043]). When all additional potential confounders are added to each model, this difference disappears (n=83, r=1.32, NS; n=179, r=0.64, NS). This is partly because attitudinal positivity to drug use in general, which was non-equivalent between groups, is correlated both with the outcome (n=83, r=0.6, p=0.01) and ecstasy use (lifetime ecstasy use [n=60] positivity mean score 6.5, compared to 5.8 among those who have never used [n=119]; t=2.24, p=0.026).

7.5.2. Other Drug Use Outcomes

In relation to future intentions, the number of different drugs that participants intended to be using 12 months after data collection was measured at both assessment points. There was a significant difference between the groups as a whole (n=179) on this variable prior to intervention (intervention mean number 1.51, control 2.26), and the gap between the two widened further (intervention 2.26, control 3.01) at follow-up. The overall increase is attributed to the prompting of legal drugs in the interview. A significant difference between the groups was observed after also controlling for other potential confounders (r=0.48, p=0.019).

Among the 83 who had used illicit drugs other than cannabis at study entry, 9 of the 42 in the intervention group (21%) and 7 of the 41 in the control group (17%) reported a decision to cut down or stop their use of a stimulant drug during the study period.

Mean stimulant dependence (SDS) scores observed were 0.69 for the intervention group and 1.75 for the control group respectively (n=83, t=2.26, p=0.027). When potential confounders are controlled for, the estimated difference between the groups narrows and become non-significant (n=83, r=0.75, NS). The SDS was administered to only 22 participants in respect of other drug use (of a possible 38 who had used once or more during the study period). Of these the mean scores were 0.25 (n=4) for the intervention group and 1.06 for the control group (n=18).

The intervention and control groups differed in relation to interactional problems attributed to the use of stimulant and other drugs (which were collected together). Among the 42 intervention group participants who were baseline illicit users, 5 (12%) reported having any such interactional problems in the three months after intervention, as compared to 15 of the 41 in the control group (37%; chi-sq. 6.9, 1 df, p=0.009). When the total number of these problems are compared in the two groups, the mean scores are 0.12 and 0.49 respectively (t=2.8, p=0.006). These two findings are found to be robust after controlling for potential confounders (any problems OR=3.7, p=0.03; number of problems r=0.38, p=0.013).

Incomplete data were collected on importance and problem identification for stimulant and other drugs in respect of single episode users. The mean importance score of the main drug used among 21 intervention group members was 2.67 as compared to 2.97 among 38 of control group (t=0.89, NS). For other drugs used, mean importance score was 1.92 for the intervention group (n=12) and 3.28 for the control group (n=25, t=2.37, p=0.026) Problem identification mean scores for main drugs were 0.77 for the intervention group (n=22) and 0.95 for the control group (n=37, t=0.64, NS). For other drugs, 10 of the intervention group reported a mean problem identification score of 0.3, compared to a mean of 0.96 reported by 25 controls (t=1.82, p=0.078).

7.6. Outcomes Relating to Psychological Aspects of Risk

These outcomes relate not to the use of any specific drug or drug type, but to drug use in general. In only the outcomes relating to decisions to stop or cut down, these data have been previously considered in any way (as they relate to particular drugs).

7.6.1. 'Before & After' Outcomes

Higher levels of motivational stage of change in relation to drug use in general was observed in the intervention group in one of two measures used, before and after intervention. When participants nominated mutually exclusive categories, the observed data are reported in the table below (those reporting potential or actual change in the form of increasing use or risk, or none of the above were recorded as pre-contemplation at baseline [n=8, intervention group, n=11 control group]).

Table 7.8

	BEFORE		AFTER	
	CONTROL	INTER	CONTROL	INTER
Pre-Contemplation	51% (n=42)	44% (n=43)	26% (n=21)	11% (n=11)
Contemplation	10% (n=8)	17% (n=16)	21% (n=17)	16% (n=15)
Determination	12% (n=10)	11% (n=11)	20% (n=16)	16% (n=15)
Action	9% (n=7)	18% (n=17)	16% (n=13)	19% (n=18)
Maintenance	18% (n=15)	10% (n=10)	18% (n=15)	39% (n=38)

Modelling these outcomes as continuous data, 3 out of 4 intervention recipients reported on average one stage higher than their control counterparts, controlling for

baseline status (r=0.76, p=0.004) and other potential confounders.

In the other stage of change measure, eight Likert scaled statements corresponding to two points (early and late) in pre-contemplation, contemplation and determination and one each for action and maintenance were used. On none of these statements did any differences between the two groups approach statistical significance. Those with p-values below 0.1 were the firmly pre-contemplative item (r=0.26, p=0.062) and the action item (r=0.3, p=0.084).

High levels of decisions to cut down or stop the use of at least one drug were reported in both groups, which may or may not have been acted upon. In the intervention group, 90% (n=87) reported making such a decision, and in the control group 59% (n=48) did so. The intervention group were five times as likely to make a decision to cut down or cease use of at least one drug (OR=5.4, p<0.0001). On average, the intervention group made decisions to cut down or cease the use of 1.52 drugs, whilst the control group did so on average for 0.85 drugs. This difference is also highly significant (r=0.74, p<0.0001).

Participants rated satisfaction with personal drug use on a seven-point scale, before and after intervention. There was little change in either group on this measure. The control group mean score increased from 5.1 to 5.2, whilst the intervention group mean score reduced from 4.9 to 4.7. No differences between the groups were observed when modelling these data.

Similarly, participants rated the enjoyment or pleasure they derived from the drug they most enjoyed on a 10 point scale. Again little change in ratings was reported (alcohol became much more prominent in the drugs identified), with the control group mean score decreasing from 8.4 to 8.2, and the intervention group mean score also decreasing slightly from 8.2 to 8.0. Again, no differences were observed (r=0.06, NS).

Attitudinal positivity to drug use in general was measured before and after intervention on a single item ten-point scale. The intervention group increased from a mean score of 5.59 to 5.96 indicating a slight increase in attitudes favourable to drug use. The control group mean score also increased from 5.94 to 6.51. The adjusted difference between the groups was not statistically significant (r=0.43, p=0.088).

Self-monitoring was encouraged as an intervention component, centrally involving topic 12. Two behavioural outcome measures were preferred to alternatives; the recording of consumption and of consequences. During the three month study period, 13 recipients of the intervention recorded their consumption of at least one drug, compared to one individual in the control condition. They were found to more than twenty times as likely to have done so, adjusting for other variables (OR=22.6, p=0.003). No differences were modelled for consequences, where the seven individuals (6 intervention, 1 control) who recorded consequences in the study period, had all done so previously.

As a measure of general psychological well-being, the General Health Questionnaire

(Goldberg & Williams, 1988) was administered before and after intervention. After scoring the same in means prior to intervention, the one point difference (control group higher) between the groups three months later was not significant (r=1.2, p>0.1)

Table 7.9

Psychological Aspects of Risk

	Regression Coefficient	P-VALUE
Stage of Change 1	r=0.76	0.004
Stage of Change 2	/	NS
Decisions to cut down or stop	OR=5.4	p<0.0001
No of drug decisions	r=0.74	p<0.0001
Satisfaction	/	NS
Rating of enjoyment/pleasure	r=0.06	NS
Attitudinal positivity to drug use	r=0.43	0.088
Consumption recording	OR=22.6	0.003
GHQ score	r=1.2	NS

7.6.2. Other Psychological Outcomes

The Drug Attitudes Scale (which relates only to illegal drugs; Parker et al., 1998a) was administered after intervention only. The intervention group scored slightly lower (mean 42.35) than the control group (mean 43.84) and again this difference is not near statistical significance (r=093, NS).

At follow-up interview only, participants were asked for their views on the safety of six drugs, rated on a ten-point scale. For heroin, crack, ecstasy and amphetamines similar mean scores were reported by both groups. The mean score for skunk in the intervention group was 4.1, compared to 3.2 in the control group (higher scores indicating perceptions of greater risk, t=2.95, p=0.0036). For cocaine, the intervention group mean score was 8.5 compared to 7.8 in the control group (t=2.43, p=0.016). When controlling for potential confounders, neither outcome is indicative of intervention effect (skunk r=0.45, NS; cocaine r=0.1, NS).

Participants were asked to rate how important and how satisfied they were with various non-drug use variables at follow-up interview only. These were rated on the same seven-point scale used to assess importance of drug used. The means scores for each group are reported in the table below.

Table 7.10

	IMPORTANCE		SATISFACTION	
	CONTROL	INTER	CONTROL	INTER
College studies/career	5.6	5.8	4.1	4.4
Relationships	4.6	4.5	4.2	4.4
Friends	5.3	5.1	5.5	5.9
Family	6.0	6.0	5.2	5.1
Having fun	5.2	4.9	5.1	5.0
Health	5.6	5.9	4.8	5.1

It is noteworthy that the differences in the mean scores are quite minimal and that all importance scores above are higher than those obtained for any drugs in either group. Although the mean differences between the two groups appear slightly greater for satisfaction, it is only on two importance variables that these differences result in p-values below 0.1. These are the importance of having fun (t=1.81, p=0.72) and of health (t=2, p=0.047). Neither of these outcomes can be robustly attributed to intervention (fun r=0.26,p=0.088; health r=0.18, NS).

7.7. Interactional Risk Outcomes

These outcomes again relate not to the use of any specific drug or drug type, but to drug use in general. All outcomes here considered are behavioural and interactional. Only in the case of problems with others, have these data been previously considered (as they related to particular drugs).

7.7.1. 'Before & After' Outcomes

Participants were asked, before and after intervention, whether they had been arrested while intoxicated ('ever' before; and then during three month study period). In the intervention group the following proportions were observed; 12% (n=12) for prior lifetime prevalence and 5% (n=5) prevalence three months post-intervention. The corresponding proportions for the control group were 17% (n=14, lifetime prevalence) and 7% (n=6, study period prevalence). No differences between the groups were found (OR=0.88, NS).

Participants were also asked whether they had committed any acquisitive crimes to finance drug use. Levels reported were low in both groups for both lifetime prevalence (intervention group n=4, control group n=5) and during three month study period (intervention group n=1, control n=3).

Similar data (prior lifetime and study period prevalences) were collected on offers of heroin, presence at heroin smoking and presence at injecting drug use. The two groups were equivalent at baseline on all three measures. In the three months after

intervention, 12% of intervention recipients and 18% of controls had been offered heroin, but this difference was not significant (r=0.43, p=0.096).

Only 2% of intervention recipients and 10% of controls were present at injecting drug use in the three months after intervention. Again, this difference was not statistically significant (OR=0.19, NS). Higher proportions than had been offered heroin were present at heroin smoking in the study period (14% [n=14] of intervention recipients; and 26% [n=21] of controls). In terms of presence at heroin smoking during the three months after intervention, a significant difference between the two groups emerged. The control group were estimated to be twice as likely as the intervention group to be exposed to the risk involved in presence at heroin smoking (OR=0.41, p=0.005).

These five outcomes were decided *a priori* to be considered as an interactional composite indicative of high risk of serious drug problems. All items were scored one point except drug motivated crime which was scored two. Taken together, and controlling for baseline and other relevant variables, a significant difference between the groups was identified (r=0.28, p=0.027).

Data on drug selling was considered separately, as being indicative of involvement in drug-using cultures/sub-cultures, but not necessarily in those associated with other criminal activity and risk of opiate use. After establishment of baseline equivalence in terms of lifetime involvement, a difference between the groups was observed on one of the two measures used. Forty per cent of control group participants sold drugs to

friends in the three month study period, compared to 15% of intervention recipients. They were found to be twice as likely to have done so, after controlling for relevant variables (OR=0.42, p=0.008).

Fourteen per cent of control group participants sold drugs to people who weren't friends in the same period, compared to 7% of intervention recipients. The odds ratio is similar to the previous one, but the reduced numbers mean that the difference here is not significant (OR=0.45, NS). It should also be noted here that the odds ratio for the baseline measure in the latter case is much higher (17.23 compared to 3.81), indicating much greater continuity of this behaviour.

The number of days absent from college and number of GP visits were collected over the previous three months as brief indicators of educational and physical health problems respectively. There was little change in number of visits to doctors in either group (control group mean score 0.98 before, 0.94 after; intervention group mean score 0.74 both before and after). There was greater change in number of days missed from college (both groups mean score 6.0 before, control group mean score 6.5 and intervention group mean score 5.5 after). No significant difference was found between the groups on this measure (r=0.94, NS).

The frequency of evenings spent in pubs and nightclubs was measured in the month before both study entry and follow-up interview. The control group increased the mean number of evenings in which pubs were visited from 5.7 to 6.2. A similar absolute

increase was observed in the intervention group (from a lower baseline) from a mean of 3.3 to 3.8. (Baseline equivalence had been established when adjusting for ethnic group.) The control group was found to spend one evening more per month in pubs, but this was not significant (r=1.09, NS).

The control group also increased the number of evenings nightclubbing from a mean number of 2.5 to 3.3 per month, whilst the intervention group decreased from a mean of 2.8 to 2.4 per month. This difference between the two groups was statistically significant (r=1.32, p=0.009).

Table 7.11

INTERACTIONAL BEHAVIOURS		
	Regression Coefficient	P-VALUE
Drug-related acquisitive crime	OR=1.08	NS
Intoxicated arrest	OR=0.88	NS
Offered heroin	r=0.43	0.096
Present at heroin smoking	OR=0.41	0.005
Present at injecting	OR=0.19	NS
High risk composite	r=0.28	0.027
Selling drugs to friends	OR=0.42	0.008
Selling drugs to others	OR=0.45	NS
Evenings in pubs	r=1.09	0.102
Nights clubbing	r=1.32	0.009
College days absent	r=0.94	NS
GP visits	r=0.13	NS

7.7.2. Drug Problem Outcomes

Problems in interactions with others were measured for the three months before and after intervention. These are problems whose cause was attributed by participants themselves to their own drug use. In the intervention group, the proportions reporting any interactional problems increased from 46% to 57% before and after intervention respectively. In the control group, there was a corresponding increase from 33% to 65%, but these changes did not prove to be statistically significant (OR=1.51, NS).

For these data, the baseline question asked whether there were any drug problems in each interactional category. The post-intervention measure involved an elaborated question which enquired about which drug types (cigarettes, alcohol, cannabis, other drugs) were causing problems within each interactional category. For each of these drug types for which there was an interactional problem, this was counted as a separate problem. It was relatively rare for participants to identify more than one problem within the same interactional category. The control group reported on average 1.66 problems each as compared to 1.19 in the intervention group. When the groups were compared, the difference in the number of interactional problems reported was of borderline statistical significance (r=0.57, p=0.045).

The proportions in each group reporting any problems in each interactional category at follow-up are presented in the table below. In only one category (the family, with which there were most problems reported both pre and post-intervention) was the difference

between the two statistically significant (r=0.25, p=0.039).

Table 7.12

	CONTROL	INTER
College Staff	12% (n=10)	6% (n=6)
Peers	28% (n=23)	28% (n=27)
Police	13% (n=11)	6% (n=6)
Parents or Family	43% (n=35)	28% (n=27)
Local Adults	6% (n=5)	7% (n=7)
Partners	17% (n=14)	22% (n=21)

Participants were asked how frequently drug use had led to five educational harms occurring in the three month study period. Each item was scored 0 -3, with a total range possible of 0 -15. The mean score for the intervention group (4.22) was approximately half a point lower than the control group (4.77) which was not statistically significant (r=0.44, NS).

7.8. Further Study of Intervention Effect

For all the regression data thus far reported, an important assumption has been made as to the nature of the intervention effect; that the effect is equal throughout the study population. Testing this assumption involves study of whether the observed effect is modified by any sample or study characteristics i.e. whether there are identifiable factors associated with increased or decreased change.

Three outcome measures have been selected for further study. These are the same measures as were chosen for study of relationships between process data and outcomes; cigarette smoking (number of cigarettes smoked per week at follow-up), alcohol consumption (number of units of alcohol drank in previous week) and cannabis use (usual weekly frequency). For each of these outcomes, interaction terms were included in the final models selected by stepwise procedures (for example in the case of cigarette smoking, including baseline positivity to drug use and number of drugs for which prior decisions to cut down or stop had been made as well as baseline cigarette smoking and ethnic group).

7.8.1. Scope of Study

Potential interactions with the following variables were studied:

a) Sociodemographic Variables:

Age (in years at study entry), Gender, Ethnic Group, Number of GCSE passes at grades A - C, Living in rented accommodation or not, Living in state benefits-dependent household, Personal income source (jobs, parents/family, other), Student Status (full-

time, part-time, non-student), Geography (college north or south of river Thames).

b) Drug Use Variables:

Cigarette use (number per week), Alcohol consumption in units, Cannabis use frequency , Age of first use of drug concerned, Age of first weekly use of drug concerned, Prior use of illicit drugs other than cannabis, Current use of stimulant drugs at baseline, Current use of other drugs at baseline, Use of other two drugs during study period.

c) Other Baseline Characteristics:

Stage of change, Previous cut down or stop decisions in respect of nay drug and drug concerned, GHQ score, High-risk score, Pleasure derived form drug use score, Any drug-related interactional problems and the number thereof, Prior recording of drug consumption, Prior telephone helpline use, Psychosocial vulnerability score, Parental risk score.

d) Potentially Mediating Variables:

Decisions to cut down or stop use of drug concerned and any drug during study period, Recording of consumption during study period.

Additionally, past month pub-going was tested in relation to past week alcohol consumption and the following variables in relation to cannabis use; baseline intention to discontinue within 12 months; baseline peer involvement in cannabis use; baseline

illegal drug dependence; current and prior drug selling to friends; current and prior drug dealing.

It is noteworthy that the interaction term for college was significant for all three drugs (cigarette smoking F=6.78, p<0.0001; alcohol consumption F=15.33, p<0.0001; cannabis use F=12.09, p<0.0001) reflecting variations in the local conditions in which the study took place.

7.8.2. Cigarette-Smoking Effect Modification

Three statistically significant interactions were detected in relation to this outcome: Those who were currently using other drugs (LSD, magic mushrooms, amyl nitrite or other non-stimulant drugs) at study entry did not reduce their cigarette smoking as much as those who were not (r=19.1, p=0.026). Although not reaching statistical significance, there was lesser reduction among those who had ever used illicit drugs other than cannabis (r=14.8, p=0.059)

The effect on cigarette smoking was also greater among those who scored lower on the high risk composite index (r=7.25, p=0.036, prior presence at heroin smoking or injecting drug use, having been offered heroin, arrested intoxicated, and drug-motivated crime at baseline).

The effect on cigarette smoking also varied according to baseline stage of change (F=3.0, p=0.026), though not in any straightforward fashion. The difference between

the groups appears most pronounced in respect of those in action (r=31.8 in separate regression for each category), maintenance (r=26.5) and pre-contemplation (r=18.5) at baseline, there being virtually no difference among those in contemplation (r=0.4), with those initially in determination in the control group appearing to be smoking less than the intervention group at follow-up (r=16.5). It is noteworthy that there are small numbers in different stages (for example, n=21 in determination). No further interactions were found to be statistically significant.

7.8.3. Alcohol Consumption Effect Modification

Four interactions with baseline measures were identified in relation to alcohol consumption. After controlling for consumption at study entry, those who were drinking more reduced their drinking by more (r=0.34, p=0.02). The adjusted difference between the groups was 2 units on average for those who had initially consumed under 10 units. This compares to an adjusted difference of 22 units on average among those who had consumed over 30 units in the week prior to study entry.

Heavier cigarette smokers also reduced their drinking more (r=0.1, p=0.019). The adjusted difference between the groups was two units among those smoked less than 10 cigarettes per week. The greater the number of cigarettes smoked above this level the larger the difference between the groups. Likewise, those who rated highly the enjoyment they gained from their drug use reduced their drinking more (r=1.79 , p=0.036).

Finally, income source differentiated alcohol consumption change. Among those who received most of their money from their parents or family, there was no mean difference between the groups in units consumed. By comparison, among those who derived most of their money from work, intervention recipients reduced their consumption by 9 units more than control counterparts (r=7.72, p=0.024). When including also those with other main sources of income (mostly benefits, but also partners, drug dealing and criminal activities) this interaction falls just short of statistical significance (F=3.28, 2 df, p=0.052). No further interactions were found to be statistically significant.

7.8.4. Cannabis Use Effect Modification

In contrast to the previous two drugs, effect modification was identified for a large number of variables in relation to cannabis use. An indicator of psychosocial vulnerability was constructed *a priori* from lifetime experience of psychiatric or social services care, homelessness and school exclusions.

In addition to the variables in the table, peer involvement with cannabis use (r=3.72, p=0.006), student status (F=3.79, p=0.034) and stage of change (F=4.08, p=0.006) proved to be statistically significant but difficult to interpret.. In these cases, there are small numbers in some of the categories. Greater change appears among part-time students and less in non-students, whilst there does not appear to be a linear relationship between change in personal use and extent of peer use of cannabis.

Table 7.13

VARIABLE		EFFECT LARGER FOR
Baseline Cannabis Use Frequency	r=0.62, p<0.0001	more frequent
Baseline Alcohol Consumption	r=0.2, p=0.047	those drinking less
Follow-up Alcohol Consumption	r=0.3, p=0.016	those drinking less
Baseline Cigarette Smoking	r=0.12, p=0.015	those smoking more
Gender	r=8.95, p=0.01	men
GCSE passes A - C	r=1.39, p=0.038	those with less
Household Benefits Reliance	r=12.6, p=0.006	those on benefits
Drug Use Pleasure Rating	r=2.31, p=0.047	higher scorers
Psychosocial Vulnerability Index	r=6.41, p=0.02	more vulnerable
Drug-dealing	r=8.71, p=0.038	those with prior history
Income Source	F=8.51, 2 df, p=0.001	those without jobs
Follow-up stage of change	F=6.16, 4 df, p=0.001	those in later stages

In the case of baseline stage of change, variation between categories established in ways similar to the report of cigarette smoking data, suggested enhanced benefit for those in the determination stage. In addition to these variables, dependence (r=0.99, p=0.058) and living in rented accommodation (r=8.2, p=0.055) did not reach statistical significance, and no other interactions were found to be statistically significant.

7.9. Summary Statement of Experimental Data

This section summarises in textual form the material presented earlier in this chapter. In so doing, statistical details are omitted in the interests of narrative. Likewise, details of baseline covariates and other aspects of statistical modelling may be found in the relevant sections of chapters 5 and 6. This statement focuses on outcomes. In just under half the outcomes studied, there was evidence of intervention effect in the form of robust differences between the intervention group and the control group. Observed differences between groups were detected in the majority of consumption-related measures of cigarette, alcohol and cannabis use. There were no differences observed between groups in the majority of other drug use, problem, psychological, interactional or other behavioural aspects of risk.

7.9.1. Overview of Areas in which Effects were not Observed

Few differences were found between those receiving the intervention and those not, on a wide range of drug specific and interactional problem measures. Alcohol and cannabis dependence were also similar. On other measures of problems, amongst which attribution to drug use explored in some instances and not in others, a similar picture emerges. Of particular relevance to the college setting, no group differences were found in the number of days absent from college nor on a measure of drug-related educational harm. No differences were observed on the measure of health problems employed; number of consultations with GP.

The frequencies of stimulant drug use and of amyl nitrite, LSD, and magic mushroom

use were found to be uninfluenced by intervention in this study. The proportions moving from cannabis to other illegal drugs during the study period were similar (though small). In both cases, there was limited power to detects differences attributable to the intervention because of the sample composition and length of follow-up.

Many psychological variables thought to be indicative of risk were largely uninfluenced by intervention. Level of enjoyment of & satisfaction with personal drug use, satisfaction with other life areas & general psychological well-being were similar in both groups. This was also true for attitudinal positivity to drug use in general and views on the safety of six high-risk drugs.

Interactional factors in which no differences were found were being offered heroin, frequency of going to pubs & being in the presence of injecting drug use. Other interactional behaviours in which no intervention benefits were observed were drug dealing, drug related acquisitive crime and intoxicated arrests.

7.9.2. The Effect on Cigarette Smoking

Evidence of reduced cigarette smoking in the intervention group is available from inspection of a number of outcome variables. As well as the difference in the mean usual weekly frequency of cigarettes smoked, there were lower levels of dependence among smokers at follow-up. The effect on cigarette smoking was broadly equivalent within the study population with limited evidence of effect modification present.

Also among cigarette smokers, a trend was observed in the importance attached to cigarette smoking (though not reaching statistical significance) and in problem recognition (which did). This latter variable requires careful consideration, as lower problem recognition in the intervention group may be open to different possible interpretations.

The difference in the proportions who actually gave up cigarettes was not statistically significant, nor was the difference in the proportions making decisions to cut down or stop. Interactional problems involving cigarette smoking were relatively rare and unaffected by intervention.

7.9.3. The Effect on Alcohol Consumption

The proportions of weekly drinkers increased slightly in both groups. Those in the intervention group were significantly more likely not to be drinking any alcohol after intervention. They were much more likely to have made a decision to cut down or stop in the three months after the intervention. Among those still drinking at follow-up, a trend was reported in that alcohol was considered to be less important by subjects in the intervention group (though not statistically significant). Reduced alcohol consumption was reported by the intervention group.

Again there was limited evidence of effect modification. After controlling for previous drinking, those drinking at higher levels reduced their drinking more. Likewise, heavier

cigarette smokers reduced their drinking more, as did those who rated highly the enjoyment they gained from their drug use, and those with incomes independent of their parents. There was no impact upon dependence, nor on interactional problems caused by drinking, nor problem recognition (all of which were relatively rare).

7.9.4. The Effect on Cannabis Use

There was a dramatic reduction in the usual weekly frequency of cannabis in the intervention group, whilst the level of cannabis use actually increased slightly in the control group. Other variables which constitute supporting evidence of a pervasive behavioural change in this area are present but are less dramatic. The mean number of days on which cannabis was not smoked in the month prior to interview was reduced in the intervention group compared to the control group. The usual quantity consumed per week was also reduced.

Those receiving the intervention were much more likely to have made a decision to cut down or stop. Among those continuing to smoke cannabis, this use appeared more important to the control group than the intervention group (though not statistically significant). The proportion giving up smoking cannabis was higher in the intervention group, but this change to non-use could not be robustly attributed to the intervention by itself. The proportions of heavy smokers (daily or near daily) declined substantially in the intervention group while remaining static in the control group. Future intentions not to be smoking cannabis twelve months later also differentiated the two groups. No differences were found in dependence, interactional problems and problem recognition.

The effect on cannabis use was much larger than those on alcohol and cigarette use and this effect was less uniform than for those drugs. In many ways, the intervention has influenced cannabis use most strongly amongst those at most risk. Among the variations identified in respect to this effect, it was observed to greater among; men; those living in benefits reliant households; with least GCSE passes A - C; who are psychosocially vulnerable; and with a history of drug dealing. In terms of drug use, the effects were most pronounced in those who were initially heavier cannabis and cigarette smokers, and those who were lighter drinkers and initially rated their drug-using pleasure highly.

7.9.5. The Effect on Stimulant and Other Drug Use

The use of stimulant and other illegal drugs were also targeted for intervention, when they had been used by the subject. Approximately half the sample had lifetime experience of the use of these drugs and around one third were current users before and after intervention. Statistical power to identify benefits attributable to intervention is thus much reduced in comparison to the three drugs already discussed.

The only consumption measure on which a significant difference was observed between the two groups was in whether there was any use of non-cannabis, non-stimulant illegal drugs in the three months after intervention. This largely related to the use of LSD, magic mushrooms or amyl nitrite. The groups also differed in interactional problems attributed to the use of stimulant and other drugs, with the control group more

likely to experience any and to have more of them.

7.9.6. The Effect on Psychological Variables

Across the range of drugs used, the intervention group was almost five times as likely to have made a decision to cut down or stop and had made these decisions in respect to almost twice as many drugs. Higher levels of motivational stage of change were observed in the intervention group (on one of two measures used).

The intervention group were taught self-monitoring as an intervention component. The behavioural outcome measure chosen (recording) strongly differentiated intervention from control group. Qualitative data supported the interpretation of the quantitative data that the cognitive-motivational change sought by intervention was achieved.

7.9.7. The Effect on Interactional Variables

Diversion from serious drug problems was a long term preventive aspiration of the intervention. The control group demonstrated a greater proximity to heroin use than the intervention group in being twice as likely to have been present at heroin smoking in the three month study period. Lesser involvement in currently used drugs and drug-using sub-cultures was evidenced by data on drug selling to friends. The control group were more than twice as likely to have done so as the intervention group in the months following intervention. Similarly, a significant difference was observed in frequency of nightclubbing, an environment associated with drug use.

A similar effect, again in the same direction, was observed with interactional problems causally attributed to drug use by the participant. There were differences between the two groups on two variables: Those in the control group were much more likely to have drug-related problems with parents or other family members. Also they identified almost twice as many problems with others in general as the intervention group.

CONTENTS

Synopsis

Detailed scrutiny of the results reported in previous chapters is undertaken here. The discussion is organised in three main sections: 1. Consideration of findings in relation to hypotheses and related study objectives. 2. Examination of the relationship of the reported findings to the existing research literature. 3. Discussion of potential threats to the validity of these findings. This material sets the stage for conclusions to be drawn in the final chapter.

Introduction

This chapter succeeds a summary of the results obtained in the study itself. The discussion is organised in three main sections: 1. Consideration of findings in relation to hypotheses and related study objectives. 2. Examination of the relationship of the reported findings to the existing research literature. 3. Discussion of potential threats to the validity of these findings. Following consideration of these issues of crucial substance to interpretation, conclusions will be drawn in the next chapter, in which attention will also be given to implications for future research. In comparing these findings with those obtained in other studies, particular note should be taken of the interactive nature of the intervention. Objectives are required to be flexible at the individual level in light of the nature the intervention, involving scrutiny of a wide range of potential outcomes.

8.1 Preliminary Discussion of Findings

8.1.1. Descriptive Comparison of Observed Effects on Drug Use

The 'broad shape' of the consumption outcomes is similar for cigarette smoking, alcohol and cannabis use i.e. there is some evidence of an effect on cessation, and rather more substantial evidence of reduced levels of ongoing consumption. When considering also other outcomes relating to the use of these drugs, some interesting differences emerge.

Taking reduced cigarette smoking first, there is less evidence of decision-making stimulated by the intervention, whilst the effect on subjective assessment of the importance of cigarette smoking is similar. On other outcomes, more distinctive aspects of the effect on cigarette smoking emerge. This is the only drug for which a difference between the Intervention and Control groups in the reduction of dependence is robustly observed. Perhaps this results from a relatively close relationship between consumption and dependence, and if so, may be taken as evidence confirming the reported reductions in levels of consumption.

For subjective assessment of problem severity, the Intervention group score robustly lower than the Control group in the case of cigarette smoking. Unfortunately, this outcome measure confounds assessment of problem severity with perceptions. That there are relatively few interactional problems caused by cigarette smoking was not unexpected. It was more surprising that cigarettes were no different from other drugs in this respect.

The alcohol prevalence outcome may be disaggregated descriptively into two components - An apparent effect on; a) cessation among infrequent drinkers and; b) on prevention of initiation of drinking. Both 'effects' are particularly noteworthy in respect of Black participants, even though the numbers are small. Whilst there is evidence of the promotion of cessation in relation to other drugs, there are no data comparable to the prevention of alcohol initiation.

The effect on decisions to cut down or stop is larger for alcohol than that seen for other drugs, whilst the lack of effect modification (differences between those who make a decision and those who do not) for this variable is mirrored elsewhere. The findings for the remaining alcohol-related outcomes (importance, dependence, problem severity and interactional problems) are in line with those generally observed for other drugs.

The small difference between Intervention and Control groups in numbers ceasing cannabis use is in line with observations on both alcohol, cigarettes and other drugs. The remarkable contrast in usual frequencies of use exceeds the extent of this phenomenon in other drugs. This comparison was also subsequently formally tested by standardising the outcomes for the three main drugs and was still found to be much larger.

The impact upon decisions to cut down or stop is generally in line with observations for other drugs. The difference is less pronounced than for alcohol, though the proportions

in both groups making such decisions was much higher. It was more pronounced than that observed for cigarette smoking. Similarly, in respect of intentions, it is similar to an effect on other drugs.

The absence of a clear effect on cannabis dependence was similar to alcohol. The data on the importance attached to this drug by ongoing users is comparable to those obtained for other drugs. The absence of effects on defined problem severity is similar to alcohol, and on interactional problems attributed to cannabis is as found for both cigarettes and alcohol.

Much greater effect modification was observed for cannabis than for alcohol and cigarette smoking reduction. Like alcohol, the effect was greater among heavier users of each drug at baseline, among those who rated highly the pleasure they obtained from drug use, and also greater among heavier cigarette smokers. More pronounced reduction in cannabis use among those with less educational attainment, more household benefits reliance, greater psychosocial vulnerability and less employment has important implications for the targeting of vulnerable groups (Tackling Drugs to Build a Better Britain, 1998). Gender variation in reduced cannabis use is puzzling, although it may possibly be due to male intervention delivery.

The prevalence of current stimulant use was stable in both the Intervention and Control groups over the duration of the study period. It may be that stimulant use is more

difficult to influence than other drugs used at these ages, although there is some evidence of influence on ecstasy use.

In contrast, there was a clear intervention effect on the prevalence of other illicit drug use. Whilst, the numbers are too small to assess each different drug individually, the types of drugs most commonly used are known to be associated with discontinuation in the later teenage years (Measham et al., 1998). It is possible that the intervention may have induced an earlier maturation effect. An effect was also observed in relation to the number of different drugs which the subject anticipated using 12 months later.

Unlike cigarettes, alcohol, and cannabis, an effect was identified on interactional problems attributed to stimulant and other illicit use (as a category). This seemingly odd finding of an effect on problems, but not on consumption, has now been reported a number of times in relation to other drugs (e.g. Chick et al., 1985), and is consistent with a harm minmization perspective. It is, however, the opposite of what has occurred for the three most prevalent drugs (tobacco, alcohol and cannabis).

8.1.2. Observations on Particular Outcomes

This section has been included to permit comment on individual outcomes not discussed in detail elsewhere and considers further the data on the relative lack of influence on problems and dependence.

Levels of alcohol dependence (as measured by the Severity of Dependence Scale [SDS]) in the sample as a whole were low. In both groups at follow-up the observed mean SDS (alcohol) score among ongoing drinkers was 1.6, and again in both groups, only 15% of drinkers scored above three. There is something of a discrepancy between an apparent effect on consumption and the absence of an effect on dependence, but this may be explained by there being no real potential for any effect since the actual dependence scores were already at such low levels.

Among those continuing to smoke cannabis, the mean SDS (cannabis) score was 3.4 for the Intervention group and 3.8 for the Control group. The adjusted difference in the means, after controlling for baseline consumption and dependence was slightly higher, but non-significant (r=0.63, NS). This is particularly surprising in light of the apparent extent of change in consumption. There was no statistically significant difference in dependence between those reporting smoking just over 18 times and those smoking just under seven times per week. As with alcohol, there may have been limited potential for any effect, given low mean scores. The baseline covariate employed (dependence on any illegal drug) may also have masked non-equivalence between groups specifically in cannabis dependence at study entry.

The majority in both groups scored 0 - 3 on the SDS (cannabis) scale, with small numbers scoring relatively highly (7 or more, n=20 [25%] in control group; n=11 [13%] intervention group), and more of the Intervention group scoring 4 - 6. For unknown reasons, there was also an interviewer effect on this outcome (second interviewer,

lower scores). Perhaps, if data had been collected from those who had ceased use, the difference between the groups would reach statistical significance. This was not, however, considered to be a valid procedure, and this finding remains perplexing.

In part, this may be accounted for by the more general absence of an effect on actual drug-related problems themselves. Whilst effects on some measures were observed, more may have been expected in light of the extent of the reported changes in drug use itself. Perhaps a more finely grained assessment of the nature of problems in this population would result in different measures and detectable intervention effects. As with many psychological variables in this study, reliable measurement of subtle changes has been difficult.

Difficulties with analysis and interpretation will obviously be more pronounced when trying to study problems or risk which are not very prevalent. For example, an effect on pub-going may have been expected from the apparent change in alcohol consumption. A difference of one evening a month appeared between the groups, but this difference was not statistically significant. On average the sample frequented pubs on one or two evenings a week at both time points. Greater sample size, and hence greater statistical power, would be required to detect differences of this magnitude.

During the fieldwork the Metropolitan Police ran an extensive media campaign on drug dealing. The public were encouraged to "rat on a rat", to inform on drug dealers. The efficacy of this approach is unknown. Drug-selling to friends was found to be very

prevalent in the study sample, and a main effect was observed for the intervention. A greater reduction in cannabis use was also observed among those with prior histories of drug-selling to strangers. Both outcomes give encouragement that this very different intervention approach has such potential for impact. This is in line with Miller's observation (1999) that motivational interviewing appears to be particularly effective among those who are averse to other interventions or who seem least likely to benefit.

Approximately half of all cigarette smokers at follow-up (46%), report an intention not to be smoking cigarettes twelve months later. These data provide an important target for intervention if they are found to be representative of young smokers more generally. This would suggest the possibility that intervention may find an unexpectedly positive reception in this population.

8.1.3. Secondary Hypotheses Revisited

In this section, observations are presented on the findings in relation to the five secondary hypotheses and the related study objectives identified in Chapter 4:

1) *Hypothesis 1: Reductions in mean consumption of drugs and in levels of involvement will occur across the range of drugs used by the target population (tobacco, alcohol, cannabis, stimulant and other drugs), to a greater extent in the Intervention group versus the Control group.*

It can be seen in Chapter 7 that wide-ranging reductions in drug use were associated with the experimental intervention, and also that these vary considerably between drugs. Statistically significant reductions in consumption have been observed for all three of the drugs used by the majority of the sample (i.e. tobacco, alcohol and cannabis). There is some evidence of cessation, or movement from use to non-use, in the case of these drugs and in relation to non-stimulant illicit drugs, and this evidence is strongest in the latter case. An unexpected additional beneficial effect was seen with alcohol use, with some evidence of the prevention of initiation where it would otherwise be expected to occur (as was seen in the control group). However, with the possible exception of ecstasy, the intervention has had no detectable effect on reduction in stimulant use.

2) *Hypothesis 2: Reductions in drug-specific risk indicators (decisions to cut down or stop use during the study period, future use intentions, importance, dependence, problem identification and interactional problems) will occur to a greater extent in the Intervention group versus the Control group for each drug or drug category.*

At a general level, intervention effects on the range of variables measured in this category were expected to be correlated with reduced consumption. The harm and risk minimisation orientation of the intervention allowed nevertheless for impact on these areas in the absence of reduced consumption. Effects were observed in all categories of drug use examined (cigarette smoking, alcohol consumption, cannabis use, and stimulant and other illicit drug use). These were patchy in nature and general patterns

were not obvious. Although not always statistically significant, the importance attached to drugs by the young people themselves appears often to discriminate Intervention and Control groups.

3) *Hypothesis 3: Reductions in psychological indicators of risk in relation to drug use in general (including decisions to cut down or stop the use of any drugs, stage of change, monitoring, satisfaction, enjoyment, attitudinal positivity, views on the safety of drugs, future intentions and general well-being) will occur to a greater extent in the Intervention group versus the Control group.*

To some extent, like the previous hypothesis, the outcomes in this category are heterogeneous and hence consistent influence of them was not anticipated. Psychological indicators of risk were identified as non-behavioural outcomes in their own right. Effects were observed both on stage of change and also decisions to cut down or stop (which were both also considered as mediators of outcome, and about which reliability concerns have been discussed), but not on any other non-behavioural outcome. Although there was also an effect on the one behavioural measure considered, the intervention is interpreted to have been least effective in relation to this category. It is possibly not surprising that general views on drug use and other aspects of well-being have not been influenced, compared to those more central to personal drug use.

4) *Hypothesis 4: Reductions in interactional indicators of risk (involving interactional problems caused by drug use, educational and criminal justice harms, GP attendance, proximity to heroin and injecting drug use, drug selling and presence in drug-using environments) will occur to a greater extent in the Intervention group versus the Control group.*

Reduced risk has been secured for the intervention group in relation to small numbers of both interactional behaviours indicative of risk and interactional problems caused by drug use. Greater evidence of effect can be seen in the Intervention group than in either the previous category or in non-interactional drug problems. Notwithstanding these remarks, effects are absent on some outcomes, which may have been expected on the basis of other data (e.g. period prevalence of evening pub-going).

A qualitative evaluation of the overall effect of the intervention was also intended. Effects would appear to be legitimately characterised as broad-ranging nature, as witnessed by the material above. It is the effect on drug use, however, and specifically on cigarette smoking, alcohol and cannabis use, that is particularly striking. As a result, these outcomes were selected for in-depth study of variability of effect.

5) *Hypothesis 5: Reductions in drug use or related risk will occur equivalently for all within the Intervention group versus the Control group for selected outcomes.*

Effect modification data are in many ways as informative for those characteristics with which there is no variability observed in intervention influence, as for those that are. In the former category, sociodemographic characteristics had no statistically significant influence on the capacity to reduce cigarette smoking or alcohol consumption following intervention (with the possible exception of personal income source). In the case of reduced cannabis use, a range of sociodemographic factors and indicators of psyhcosocial vulnerability were relevant to extent of reduction. Drug use variables, on the whole, proved to be much more influential across the three drugs.

In relation to potential mediators of these outcomes, reported decisions to cut down or stop during the study period appeared to be irrelevant. Baseline stage of change as a mediator was statistically significant for both cigarette smoking and cannabis use, in different ways.

Process data also support an interpretation that there is not a single mechanism of effect, as distinct components are associated with each of these three outcomes. Different variables supportive of the general account of motivational interviewing are associated with each outcome, as are variables indicative of the adaptation tested, and the specific content and context of intervention. The data on cannabis use are particularly interesting in light of the prominence of this drug during interventions, and also in terms of those process variables consistently identified as being associated with this outcome. These data, however, have not been experimentally manipulated, and thus deserve a different status to all that has been previously discussed in this section.

8.2 Comparison with the Literature

8.2.1. Cigarette Smoking Cessation & Reduction

Both cessation and reduced consumption were studied as outcomes along with other variables. Comparison with other intervention studies and reviews of the literature is much more straightforward in relation to cessation of smoking (in contrast to considering other drugs), as this has been the usual intervention objective and main outcome measure. Although increased smoking cessation levels were not statistically significant, the odds ratio is in line with those reported in a recent quantitative review of the literature (Wetter et al., 1998). This review considered special populations including children and adolescents, and concluded that, although data were limited, cessation outcomes were generalisable. An earlier meta-analysis found more modest effect sizes (Baillie et al., 1994) and considered applicability of the findings to young people to be unknown (Mattick et al., 1994).

Wetter et al. (1998) reported an odds ratio of 2.4 for counselling in excess of ten minutes. This compares with the observed odds ratio of 2.8 (or 0.36 as formatted in chapter 7). This suggests that with enhanced statistical power in a larger sample (139 baseline smokers considered here), young people may be observed to stop smoking following this intervention. This remains, however, to be established. The recent failure of an intervention based upon the stages of change model (Aveyard et al., 1999) with younger British teenagers (aged 13-14 years old) underlines the conclusion that not all smoking cessation interventions should be expected to be efficacious.

Reduction in cigarette smoking (in contrast to quitting) following intervention has only recently received attention (Hughes et al., 1999), and meta-analytic data are not available. In this paper, data from the COMMIT trial were analysed, and sustained reductions in smoking over four years of follow-up were observed. Among the predictors of reduction (rather than cessation) identified were the following factors: being female, being black and heavier smoking. The authors concluded that "reduction neither promotes nor undermines cessation" and the possibility of developing non-cessation oriented smoking interventions has been subsequently considered (Hughes, 2000).

Butler et al. (1999) reported an interaction between stage of change and motivational intervention. They found that those less ready to change reduced their smoking by more than those who appeared more ready to change, following motivational consulting. Here the apparent effect was more pronounced on pre-contemplators than contemplators, but more pronounced still in those in all later stages, when compared to contemplators.

The plausibility of the reduced smoking finding is also supported by a number of other lines of reasoning. The volatility of cigarette smoking among young people is well known (Goddard, 1990) and recently similar observations have been made in relation to smoking patterns and willingness to change in adults in drug and alcohol treatment (Harris et al., 2000; Sobell et al., 1999). The reduction in dependence observed and

the close similarity in the nature of change in relation to other drugs further support this finding.

It is clearly important to consider whether the relationship between cessation and reduced smoking is competitive or complementary in light of the nature of the intervention. The hypothesised impact of the intervention involves subtle influence on decision-making processes, leading the recipient to opt for those outcomes which are both valued and believed to be achievable. If this is not handled well, two alternative counter-productive outcomes will be postulated for illustrative purposes: 1. Resistance results from 'pushing' the recipient towards cessation, where the likelihood of any intervention effect is greatly reduced. 2. Inadvertently, directing the recipient towards reduction when cessation is equally valued or more likely to occur. In this case, the effect on cessation is not optimised.

The first of these possibilities would appear very unlikely on the basis of the data. The second requires an assessment to be made of the potential for cessation, not only on the basis of the available literature, but paying close attention to the young person. Given the odds ratios already discussed, it would appear that cessation and reduction in smoking have been secured in a complementary fashion. This is in line with the data reported by Hughes et al. (1999), and greater attention to this relationship is expected to be a feature of the developing literature in this area.

8.2.2. Change in Alcohol Use

The existing literature on the opportunistic use of brief interventions targeting drinking in primary care and other settings was a defining strand in the evolution of this intervention study. The available evidence base of controlled trials of brief interventions largely involves adult drinkers, mostly male, and often heavy drinkers. Reported reductions in consumption are consistently in the range of 20-30%, with meta-analytic estimates towards the middle of this range (for example 24% in Effective Health Care Bulletin, 1993). The issue of gender and responsiveness to brief intervention has been controversial (see chapter 2) and it is not yet clear how receptivity to brief intervention may be patterned by gender.

The reduction in consumption found in the present study exceeds the above estimate and no differences between genders were observed. It may be that the heterogeneous interventions for which the above estimate was obtained include both more effective and less effective interventions. This interpretation is supported by a review of the literature on motivational interviewing as well as scrutiny of more recent brief intervention trials where greater reductions in consumption are reported (Israel et al., 1996; Cordoba et al., 1998) .

A less consistent picture emerges from the literature on the question of the impact of intervention on alcohol problems and the relationship between change in consumption and problems. For example, the WHO cross-national brief intervention study found no effect on problems in the context of an effect upon consumption of the magnitude above (WHO Study Group, 1996). On the other hand, Chick et al. (1985) found no

effect on consumption but did observe an effect on the primary outcome targeted, a problem score. Population differences in levels of pre-existing problems do not allow much insight to be gained from this literature on the present finding of consumption change without observed alcohol problem change.

The reduction in alcohol consumption following delivery of the Drinkers Check-Up (Miller, 2000a) has been observed to be much greater than the main effect found in the present study. This may be explained by another facet of the effect of motivational interviewing on drinking behaviour: The effect is greater in heavier, more problematic and dependent drinkers (Miller, 2000a) and alcohol consumption is low in this population when compared to other studied. Indeed, the interaction with baseline consumption identified here replicates findings observed in other populations.

Miller has also discussed the apparent paradox that motivational interviewing appears to be most effective among those for whom negative outcomes may be expected, in addition to the characteristics above (Miller 1999; 2000a). Young people around the age of onset of legalised drinking may be such a group. The 'spirit' of motivational interviewing (Rollnick & Miller, 1995) manifested via the absence of imposed objectives and a high degree of acceptance and respect may be particularly valued by young people in the transition to adulthood and adult drug use (as suggested by Tober [1991] & Lawendowski [1998]).

In their study of high-risk college students, Marlatt and colleagues (1998) observed effects on both consumption and also on problems, with a greater impact upon problems. They speculated that the intervention had managed to teach recipients to learn to avoid the problems that the controls were to experience. This contrasts with the findings of the present study, where there has been a larger effect upon consumption and no effect on problems.

This discrepancy may be due to a number of factors. Although not explicitly reported, the American sample is likely to have been slightly older than the present one, being students of higher education colleges recruited following screening for high-risk alcohol consumption. Low levels of alcohol problems were observed in this sample and it may be that they were insufficiently at imminent risk of problems for intervention to discriminate between the two groups. As well as an effect on problems, an effect on dependence was found by Marlatt et al. (1998). The follow-up period was very much longer (two years) with the higher education sample. Intriguingly, the size of the effect on problems observed by Marlatt and colleagues is similar to that observed for consumption in the present sample.

In the American study, important gender differences were observed - not between groups, but over time. Men drank more over time and women reduced problem drinking more. No differences of these types were found here. Differences in the two study populations are also apparent when considering change in the absence of intervention. In this study drinking increased in the control group whereas it declined in the other

study. Age and cultural differences are likely to account for this variation between the two studies.

8.2.3. Change in Cannabis Use

The only two prior studies which have similarly targeted cannabis use will be discussed here. Both are extremely recent. One was a non-motivational brief intervention study, the other an assessment-based motivational intervention. Lang et al. (2000) report on a single session empathic intervention with 33 self-defined problem users (mean age 29). This observational study identified falls in consumption of approximately 30 - 60% on a number of different measures. These were observed largely to have been secured by one-month follow-up and sustained to three months. A similar pattern of benefit was observed in relation to health and social problems.

In a randomised study, comparing an adaptation of the Drinkers Check-Up (Miller et al., 1988), with an extended relapse prevention support group and a delayed treatment control group, Stephens et al. (2000) observed a similar pattern of benefits. On the two main consumption measures, the motivational interviewing group reduced by 50-70% at four-month follow-up. This was accompanied by substantial reductions in dependence and problems, most of which were maintained longer term. The study population here were treatment seekers with a mean age of 34 years, and again change was found to have taken place within the first month following this intervention. Two other noteworthy findings were that the delayed treatment control group improved on consumption and problem measures and that alcohol and other drug use were largely unaffected.

The size of the effect on reduced consumption appears to be of a similar magnitude to the effects observed in both these studies, as does variability between apparent effects on different measures of consumption. No direct comparison is possible as measurements were not standardised in this area. Cessation data and effect modifications are not reported in either paper.

In contrast to these similarities, major differences in the findings are apparent when considering dependence and problems. In the two other studies, as might be expected, reduced consumption has been accompanied by reduction on measures of these types, whereas this was missing in the present study. Differences between study populations in terms of levels of problems and dependence may well account for part of this discrepancy (and the contrasting fortunes of the control groups). Why consumption reduction was not accompanied by a decrease in dependence remains puzzling.

In the latter study the authors were concerned that changing cannabis use should not lead to substitution, with increases in the use of and problems with other drugs. In the present study, positive change across different drugs has been observed, apparently unhindered by concerns of this type.

8.2.4. The Prevention Literature

The largely North American literature on prevention has previously been evaluated in both positive and negative terms. American reviews (Evans, 1998; Botvin et al., 1998)

have tended to be generally more positive in their assessment of this literature, identifying particular characteristics of effective approaches. Recent British systematic reviews (Foxcroft et al., 1997; White & Pitts, 1998) have emphasised poor methodological quality and are rather less positive about the potential for cross-cultural application of this body of work. Overall, there is widespread acknowledgement that most prevention programmes implemented and evaluated are ineffective. In this context, the results of this study shall be discussed in relation to characteristics of effectiveness described.

There are many points of reference with the characteristics Tobler identified (1997) in her extensive meta-analytic study. Programmes of the scale of this study are associated with higher effect sizes, as are those using experimental rather than quasi-experimental designs and those implemented in schools where more than 50% of participants were from ethnic minorities.

Cannabis tends to be associated with higher effect sizes than cigarettes or alcohol. Generic programmes (which target multiple drugs) are found to be as effective as drug-specific programmes for cigarettes and more effective for alcohol. Targeting interactional risks via social influence models, and factors other than drug use, for example life skills, are found to be the most effective in terms of content. Mental health specialists have been found to be more effective than other professional groups in the delivery of this material (Tobler, 1997). Similarities with the results of the present study in all these areas are apparent.

The most important differences relate to objectives and content, targeting and aspects of evaluation. Social influence and life skills programmes in the U.S. generally aspire to primary prevention. They seek to persuade participants of the undesirability of drug use. This is directly contradictory to the approach taken here. Typically these programmes are delivered to 11- 12 year olds, in schools, with annual follow-up data collection.

Tobler identified the most important single variable associated with effectiveness as interactivity. Programmes which are essentially didactic are generally ineffective and programmes characterised as interactive found to be generally effective. Interactive in this context relates to teaching method and the process of delivery, for example, using small groupwork to practice skills. In the present study interactivity was conceptualised and implemented differently, and arguably in a more far-reaching way. The participant's engagement with components of intervention influenced intervention content, so that it became individually tailored. Interactivity thus characterises content as well as process, and the promotion of the activity of the participant in the intervention event is fundamental to motivational interviewing.

8.2.5. Other Research

There is limited literature to discuss in relation to interventions influencing the use of more than one drug at a time. Biglan et al. (2000) report how a community intervention to prevent tobacco use was superior to a school-based intervention only, and had

effects on other drug use. Among older children, the prevalence of alcohol use was positively influenced and among both seventh and ninth graders cannabis use was less prevalent in intervention communities. The authors interpret these effects on other drug use as a consequence of tobacco prevention.

In the present study, process data indicating the salience of particular drugs during the intervention has been found to have some relationship to outcomes. It also appears that change has occurred to some extent, regardless of drug-specific intervention content. Change may have been secured both as a primary effect of intervention, or indirectly as a consequence of this primary effect. Further individual-level analysis may have the potential to reveal relationships between change of these types across different drugs. The principal observation to be made in relating the present results to the literature is that change has been secured in more than a singly-targeted drug. The only other comparable effect is that reported by effective generic prevention programmes (Tobler, 1997).

Saunders et al. (1995) report a range of intervention benefits attributable to a brief motivational intervention with opiate users. Some of these are behavioural outcomes, but many are psychological in nature. These authors observe that a focus on behavioural outcomes may miss subtle psychological changes promoted by intervention. In this study, some beneficial psychological outcomes have been observed, but in the majority of cases no differences were found between the groups. In

light of the hypothesised nature of the intervention effect, this is important to explore (see later discussion on reliability).

Interactional differences between the groups appear on some measures. These are fairly straightforwardly interpretable as outcomes indicative of risk in most cases. For some, the literature provides support for particular interpretations of the significance of these data. For example, drug selling to friends has historically been understood to be a marker of involvement with drug-using sub-culture (Goode, 1969).

Current interest in the 'Gateway' perspective was an important feature of the epidemiological context of this intervention study. Recently, the first intervention outcome data have been published which constitute supportive evidence for this longstanding preventive belief and aspiration (Botvin et al., 2000).

A longer term evaluation of this intervention could potentially demonstrate widening differences between the groups, following this short term modification of risk in line with a hypothesised 'cascade of consequences'. This would only be true however, for those predisposed, in some way, to gateway transitions. Prospective identification of such risk is not likely to be achieved easily. In this sample, being white, rather than any of the hypothesised risk factors, was the factor most obviously associated with having made past transitions to use of illegal drugs other than cannabis.

8.3.1. Bradford-Hill's Inferential Principles and the Importance of Alternative Explanations

The results reported in Chapter 7 point towards differences between the Intervention and Control groups that appear to be attributable to receipt of the intervention three months previously. These findings have been compared to the relevant scientific literature and it appears that they are both interpretable within this context and extend what is known in a number of ways. Before drawing conclusions about intervention efficacy, however, it is necessary to consider the validity of these findings.

Two related lines of enquiry will be pursued in respect of these apparent differences. Consideration shall be given to: 1. Whether there really are such differences between the two groups. 2. Whether these differences can satisfactorily be attributed to receipt of the intervention. Together these amount to a search for alternative explanations for these data.

In a discussion of the evaluation of quantitative scientific data, Bradford-Hill & Hill (1991) identify a series of inferential criteria and comment that;

"the more anxious we are to prove that a difference between two groups is the result of some particular action that we have taken or observed, then the more exhaustive should be our search for an alternative and equally reasonable explanation of how that difference has arisen."

In this study, a contextual imperative for the development of efficacious intervention with young people has been identified in the early chapters. Adaptation of the intervention, and its delivery and evaluation being carried out by the investigator himself is indicative of much personal investment in the project. The extent to which alternative explanations can be ruled out will fundamentally shape the conclusions drawn and consideration of future study which is to be undertaken in the final chapter.

The principles of inferential logic in respect of statistical data that Bradford-Hill and Hill (1991) identify serve as a useful starting point for this discussion. These are; strength of association; consistency; specificity; relationship in time; biological gradient; biological plausibility, coherence of the evidence, experiment and reasoning by analogy. The more of these satisfactorily considered to exclude alternative explanations, the more confidently can conclusions be drawn that participation in the intervention explains observed differences. Likewise, the strength of the evidence available in relation to these factors provide an important evaluative standard.

Reasoning by analogy has been key to the hypothesis which underlies this study (that this population may benefit in similar ways to others), but plays no part in the evaluation of the findings. Without reviewing here each outcome individually, the strength of association between group membership and differential outcome is taken to strongly support an interpretation of intervention efficacy on the basis of the size of the differences between the groups. The differences in the means and odds ratios reported

in chapter 7 suggest not only that there is an intervention benefit, but that this benefit is substantial (and wide-ranging).

It cannot be claimed, however, that these differences are consistent with other studies elsewhere of this population, as these studies are not known to have been undertaken.

In line with the discussion of the literature earlier in this chapter, consistency with the types of benefits observed in other populations (e.g. cigarette smoking cessation, reduced drinking and reduced cannabis use) resulting from similar interventions can be described in a limited fashion. The intervention was developed following work mainly undertaken in relation to alcohol, and is broadly consistent with results obtained for older, more problematic and dependent drinkers. Some consistency with findings in relation to cigarette and cannabis smoking interventions has also been described.

The results presented are in accordance with what is generally known about psychological interventions with drug users i.e. they display coherence of the evidence in that change in this population appears to have been secured in ways similar to other populations. There is no evidence of a (psychological) gradient or dose-response relationship. In line with the comments above, a certain amount of psychological plausibility can be claimed. These data accord with what is generally known of addiction interventions today. However, it should be noted that this is a comment on the absence of conflict with what is known rather than an assertion about how much is known.

Although intervention benefits are broad-ranging, this does not negate the specificity of the evidence: Benefit is conferred by group membership as defined by receipt of intervention or not. Although the outcomes analysed are likely to have been influenced by a range of factors, the employment of experimental design has allowed control of other factors and ensured that the relationship in time is as it should be.

A preliminary assessment of the size of the observed differences suggests that there is a real difference between the groups. Also that such a difference is plausible in terms of consistency and coherence of the evidence. However, much more attention is required to rule out other explanations of these findings. This shall be organised as an evaluation of potential strengths and weaknesses of the study.

8.3.2. Strengths of Study Design & Methods

Novel targeting of the population under study and the successful use of a randomised study design were required by study objectives. Potential practical obstacles to randomisation were identified and overcome via amongst other things a cluster allocation method. Feedback from participating colleges was very positive and future collaborations are anticipated. Fieldwork recruitment and baseline assessment, the delivery of interventions and follow-up interviewing was undertaken efficiently (after overcoming initial difficulties). The high follow-up rate (89.5% of study subjects) allows confidence that only in a very unlikely event would loss to follow-up account for differences between the two groups.

To this list of perceived study strengths two observations are to be made: 1. Of all of these characteristics, it is contended that randomisation and the recourse to experimental logic permitted by it, provides the strongest support for claims of intervention efficacy. 2. Novelty is not without cost and randomisation is no guarantor of study quality.

If a Control group had not been recruited for comparative purposes, it may be difficult to interpret the quite dramatic changes observed following intervention. Clearly, being studied and receiving the intervention would be associated with these changes. It would not be clear, however, how this was so, and what would have happened in the absence of either study or intervention.

The use of randomisation to form the Control group is helpful in eliminating a range of threats to valid inference identified by Cook & Campbell (1979). These include history, maturation, testing, instrumentation, mortality, selection and any interactions with selection. The four threats to internal validity that randomisation does not rule out, according to Cook & Campbell, are not considered to be particularly relevant. Three of these (imitation of treatments, compensatory equalisation and rivalry) would actually diminish group differences. Demoralisation, whereby the control group react unfavourably to their status, is not thought to have been relevant.

Randomisation allows clear inferences to be made on the specificity of group differences. Undoubtedly, some characteristic or characteristics of group membership

is or are associated with the differential outcomes reported. Chance and reverse causation can safely be ruled out as explanations.

Perfectly achieved randomisation also rules out confounding by any of the above means, as an alternative explanation. However, in this study randomisation did not succeed in making the two groups equivalent on all baseline measures. Potential confounding by measured variables can be controlled easily with regression techniques. Confounding by unmeasured variables not so. Even unsuccessful randomisation can go a considerable way to enable an assessment to be made of the likelihood of confounding. In so doing, it directs attention to the question of bias as a source of alternative explanations of findings. This allows potential threats to valid inference to be anticipated and studied.

8.3.3. Weaknesses of Study Design & Methods

Two possible alternative explanations for these observations/findings shall be discussed in depth; confounding resulting from baseline non-equivalence; and a combination of the Hawthorne effect and information bias from unreliable self-report. Aside from these explanations, there are other grounds on which the study may be criticised, but which are not considered to have the capacity to account for the findings. Three shall be discussed here; the methodological implications of the re-definition of the target population; the conceptualisation of appropriate outcomes and the outcome measures themselves.

The initial targeting intentions were frustrated by lack of progress within the time available (Chapter 5). The piloting of recruitment procedures was an important omission. As a result, lesser involvement with illegal drug use and fewer exclusion criteria than originally intended were deemed acceptable for the evaluation of the intervention.

The intervention itself required no amendment in light of this change, but how has this influenced the results obtained? In broad drug use terms, the achieved study population may be expected to have less accumulated harm and to be at lower drug-related risk than anticipated. It is possible that the intervention had greater preventive potential as patterns of drug use among participants were less entrenched than would otherwise have been the case. The converse of this is that there was less scope for the identification of benefits in relation to harms and other drug use. Indeed the inhibition of adequately powered regression-based analysis of other illegal drug use presents a clear limitation to the external validity of these findings (see later section).

Given the extent and nature of ethnic differences identified, particularly in relation to illegal drug use other than cannabis, it should be expected that a largely white sample would have been recruited if the original criteria has been retained. It is fortuitous, therefore, that multi-ethnic benefits have been identified (benefit should be expected for young white people on the observed basis of ethnic equivalence), partially as an unintended consequence of initial difficulties.

Psychosocial risk characteristics that would have been excluded were included as a consequence of initial screening difficulties. In the case of cannabis, additional benefit was identified for those with such characteristics. In terms of internal validity, there is no reason to believe that the actual differences observed were otherwise influenced by the redefinition of the target population.

Different outcomes may have been chosen to evaluate this intervention. There were no pattern measures of consumption, nor knowledge outcomes. There was a limited range of attitudinal, motivational and other psychological outcomes. Likewise behavioural and harm outcomes. There is no reason to believe that other outcomes selected for the purposes of evaluation on the basis of supporting epidemiological evidence would have yielded different results in the domains studied. More weight given to psychological and interactional domains (i.e. more outcomes studied) may have resulted in a less favourable overall picture, if they were consistent with the results obtained.

Prior specification of a hierarchy of outcomes or the use of a summary measure was expected to hinge upon somewhat arbitrary decisions. One reasonable concern about the way chosen to interpret efficacy would be that there exists the potential for undue selectivity of interpretation, with unfavourable outcomes ignored and attention directed to favourable ones. A second concern potentially relates to data analysis; in controlling for the role of chance in the testing of multiple outcomes.

The former concern requires evaluation of outcome data as a whole. The latter requires either statistical adjustment or an acknowledgement that individual outcomes may be susceptible to this effect. Statistical adjustment entails a more conservative approach to outcome identification (Pocock, 1998). This has been rejected in light of the exploratory nature of the study and the consequent imperative for replication study. The operation of a net bias favouring the identification or emphasis of differences between the groups because of the way outcome evaluation has been undertaken has been considered and rejected.

One of the consequences of the novelty of this study is that there is less work undertaken previously that may be directly employed or built upon. Because of limited intervention evaluation in this or similar populations, the availability of validated instrumentation for outcome study was very patchy. This necessitated the design of new questions, adaptation of existing instruments, decisions not to proceed with the investigation of some areas, and occasionally the use of existing questions or instruments for the purposes they were designed.

Where questions seek to measure complex phenomena, psychometric validation provides important support for the validity of these endeavours. Psychometric evaluation has played no part in the development of outcome measures. Unreliable outcome measures inflate standard errors and make less likely the detection of differences between groups (Cook & Campbell, 1979). An exception to this general rule would apply where this reason to believe that one group may systematically vary in

their response, which is considered in a later section. As with insufficient statistical power, unreliable outcome measures become particularly problematic when one attempts to draw conclusions where no differences have been observed.

Motivation and stage of change are worthy of attention in this regard, not least because of their centrality to behavioural change. The simple self-allocation algorithm yielded a difference between the groups, whereas the Likert-scale items generally did not. With regard to the former, action changes appear to have 'swamped' relatively subtle psychological changes. In the latter case, unreliability would appear a plausible explanation for the lack of differences (see Chapter 5). Similarly, with decisions to cut down or stop, beyond the main effects observed, the absence of interactions requires explanation. Lack of question precision and the failure to enquire as to decision implementation are suggested as possibilities.

What of the consumption measures where differences between the groups are observed? Goddard & Higgins (1999) note discrepancies among 11-15 year olds between responses to usual status categories of the type employed and to questions about recent use. Similarly, when considering correlations between cannabis consumption measures, it is evident that varying they way consumption questions of these types are asked does affect responses. Other items appear weak in retrospect with likely impact on evaluation potential. Of more importance, however, in respect of the evaluation of intervention efficacy is whether there are any grounds for suspecting patterns of bias between the groups which may explain differential outcomes.

8.3.4. The Hawthorne Effect & the Reliability of Self-Report Data

To prevent inappropriate study entry and to encourage reliable self-report, participants were required to consent to provide a hair sample on request for biochemical analysis. Anticipating the lack of blinding as a potential validity threat, a second interviewer who was blind to study condition was employed for follow-up interviewing. A 'dummy' drug was included in a list of drugs specifically asked about in follow-up interview. This and test-retest reliability of items not expected to vary between data collection points revealed no reliability concerns. Good practice in encouraging reliable self-report data on drug use, as defined by Harrison (1995), was followed.

After follow-up interviewing was completed, the peer interviewers (PIs) were carefully asked whether they had any reasons to doubt the honesty or accuracy of the reports of people they had recruited to the project. Two PIs identified an individual each about whom they were uncertain. Both concerns related to the extent of stimulant use. One non-drug using PI proved to be surprised by normative patterns of use. The other individual was characterised as someone who exaggerated quite a lot. This individual reported heavy but plausible use levels both before and after intervention. The general view of the PIs was that as far as they knew, participants had engaged as would be desired with the research project.

The provision made for the validation of self-report data in this study is weaker than intervention studies with other populations. The inclusion of a dummy drug is a

standard reliability check in drug prevalence surveys. In problem drinker and smoking cessation intervention studies, saliva, hair, urine or blood samples may be taken and/or reports from partners or others may be used to corroborate self-reports. The latter was not deemed feasible and the former options not possible for resource and practicality constraint reasons. In similar circumstances, the WHO Brief Intervention study (Babor & Grant, 1992) used an 'alcohol dipstick', a small saliva sample, in the manner of a bogus pipeline (Werch et al., 1989) to encourage reliable reporting.

The literature on the reliability of self-report suggests that drug users (Darke 1998) including young people (Oetting & Beauvais, 1990; Harrison 1995) do provide reliable self-report data when appropriate care is taken. Nonetheless, a question mark about the reliability of these verbal data remains. This is in part due to the additional possibility of a Hawthorne effect in relation to the Intervention group.

Whilst having limited recourse to longitudinal data for comparative purposes, the Control group behaves over time in line with what might be expected of them. Reactivity to assessment would appear to have been successfully constrained by the method designed for this purpose (brief self-completion questionnaire distributed and collected without researcher contact). Social desirability as a reliability threat is difficult to evaluate with this population, as it is potentially operating in both directions.

The Intervention group, on the other hand, have experienced the intervention as well as the baseline assessment. This provides an additional, and unique opportunity for

bias to intrude, so that the source of observed change may not be the effect of the intervention. It is possible that having been assessed and received the intervention, an expectation of change is implicit in further assessment, and it is this that actually drives change.

Cook & Campbell (1979) identify experimenter expectancies, hypothesis guessing and evaluation apprehension as possible explanations in these circumstances. This potential may have been exacerbated by the majority of the follow-up interviews being administered by the person who delivered the intervention. Reported changes could thus be caused by unreliable reporting by the intervention group, resulting from the special conditions of the research project experimental status, rather than the intervention itself.

These risks are intrinsic to human experimental study, and attention is warranted as to how aspects of this study design and methods may have enhanced the likelihood of their occurrence. The intervention itself was not especially directive nor sought to impose particular outcomes. Approximately, half of all interventions involved discussions of particular changes. In the remainder an implicit change agenda may have been observed, leading to either or both hypothesis guessing and evaluation apprehension.

Experimenter expectancies are difficult to evaluate as an explanation, particularly when supporting self-efficacy is integral to intervention conduct. It also requires self-

evaluation where practice has not been observed. Data collected specifically for the purpose of predicting outcomes performed poorly. In some cases, projected outcomes were negatively correlated with actual outcomes, diminishing the likelihood of experimenter expectancies being influential.

The decision to collect follow-up data by interview was taken to maximise rates of follow-up and data quality. Inadvertently, unreliable reporting may have been encouraged with this face-to-face method rather than self-completion. Twenty of the 97 intervention recipients successfully followed-up were interviewed blind to condition. This allowed limited assessment of possible bias between interviewers and the results were encouraging, with a paucity of interviewer effects in relation to outcomes, and the absence of consistent bias. Nonetheless, self-completion of the research instrument separate from the face to face contact required for other purposes may have been preferable.

It would be ironic, indeed, if the evaluation of an intervention which sought to avoid pushing people to report particular changes was confounded by the research conditions doing so. Do the outcomes under study vary in their susceptibility to a Hawthorne effect or unreliable reporting? In particular, are the reported changes in personal consumption activated or motivated by factors other than intervention effect, and psychological and interactional changes not so or less so? It was hoped that the prospect of hair analysis would encourage reliable consumption data. The salience of this in responses during the follow-up interview in unknown.

Arguably, it might be more likely that the subject would dishonestly report an attitude than a behaviour. Likewise, admission of harms or problems may be expected to be influenced by dishonest or inaccurate reporting. That no differences were observed between groups in most measures of these types, shows that if the verbal data are unreliable, they are selectively and somewhat surprisingly so. The qualitative data which support the interpretation of the hypothesised motivational impact are likely to be subject to similar influences as quantitative data. Nonetheless, these data provide interesting additional supporting evidence.

As discussed earlier in this chapter, the size of some of these effects points towards an interpretation of intervention efficacy. It is possible that unreliable reporting is exaggerating the size of these effects or is very widespread and accounts for the effect itself. This latter suggestion seems very unlikely. More likely, if present, it accounts for a portion of these effects, which it is not possible to meaningfully estimate. The existence of the interactions identified would suggest that, if such bias is operative, it is likely to be a complex phenomenon. The relationships identified between process data and consumption outcomes, although not experimental evidence, are also suggestive of an intervention effect rather than a Hawthorne effect.

It would be impossible for there to be 100% reliability in self-report data of these types, due to inevitable biases such as recall errors. However, it appears likely from the foregoing that these threats to valid inference, although unlikely to significantly affect

the results reported, require further study in order to rule out reasonable doubt as to their importance.

8.3.5. The Equivalence of the Two Groups

Randomisation did not result in equivalent groups on some of the variables. Most important of these was ethnicity because ethnic differences on many aspects of drug use and risk were observed. When controlling for ethnicity, the Intervention group were more likely to have interactional problems and a higher score for dependence on an illegal drug. The Control group had made decisions to cut down or stop in respect of more drugs and were more positive attitudinally about drug use in general. Additionally, the Intervention group answered less frequently the question about future intentions. Later analysis (particularly the correlation with cannabis use cessation) suggests that this was indeed another difference between the groups existing prior to intervention.

Two other post-intervention differences were observed in relation to sports and stimulant drug-related musical preferences which may have existed previously. The Intervention group were involved in more sports in the three months after intervention than the Control group. This is quite likely to have been influenced by intervention to at least some degree, as discussions of this subject did occur. The Control group were more interested in musical styles associated with stimulant drug use. This difference is unlikely to have been influenced by intervention and is believed to have existed at baseline.

Two important questions are posed by these data. Firstly, how did these imbalances occur, and secondly, what other differences may have existed between the groups at study entry? Cluster randomisation involves less allocation decisions being made than individual randomisation. In this case, approximately 20 decisions were made, with stratification by college accounting for other clusters. In the event of clusters of equal size, the probability that chance may have created imbalance is very small, but is larger than would have been the case if individuals had been randomised. The procedure used involved a colleague uninvolved with the study being invited to make allocation decisions at random. It is possible that a non-random pattern resulted.

Another possible influence which was not controlled is the varying sizes of the clusters. High correlations within large clusters on particular variables enhance the probability of imbalance. Although this was not relevant to outcome, this was found to be the case most notably in respect of ethnic group. To explore further this effect, the largest cluster was selected for recoding. The nineteen intervention recipients were coded as controls and their nine control counterparts as belonging to the Intervention group. All bar two of the differences between groups disappear; dependence (which remains of borderline statistical significance) and family interactional problems. A different outcome on this single decision would thus have substantially reduced non-equivalence. Cluster randomisation which takes no account of cluster size, at the number of allocation decisions made here, cannot satisfactorily ensure balance between conditions on all of a large number of variables.

More importantly for the interpretation of these data, what are the implications of the existing allocation? Inspection of known imbalances provides a useful starting point for this consideration. Whilst neither group is consistently at elevated risk in relation to the other, the Control group are more frequently found to be so. In both the instances where the Intervention group appear at higher risk, these are actually existing harms (dependence and interactional problems). If it were the case that the experience of harm does not contribute to greater risk or makes one especially receptive to intervention, then there is cause for concern that the Control group does not provide an appropriately rigorous comparison. Analytically, it was straightforward to control for these known differences. These data suggest the possibility that other unknown differences exist which may potentially account for at least some of the findings.

Post-intervention comparisons on a wide range of other data did not reveal differences beyond those believed to be related to intervention. Following the suggestion of Cook & Campbell, interpreting the outcome data as if they had emerged from a quasi-experiment (non-random allocation) gave no further insight into possible group differences. In order to take a rigorous approach to modelling the outcomes, all known potential confounders were considered for inclusion.

Ethnic group was also specified for inclusion in all models, and as such may potentially mask an intervention effect in some cases. Where other potential confounders were selected, as they were in many cases, variance is attributed to them. These tactics were used to control for other unknown, unmeasured differences between the groups.

Notwithstanding these analytic procedures, it must be admitted that other differences between the groups prior to intervention may have existed and influenced the outcomes observed. This possibility must be acknowledged, even though it is thought to be unlikely that individual outcomes, nor the broader pattern observed would be affected.

8.3.6. External Validity

The target population was defined broadly. Attention to characteristics of the achieved sample and to the study itself allows inferences about generalisability to be made. The study took place in a single setting, which was deliberately chosen to be conducive to recruitment and the delivery of intervention. Analyses of attrition suggest that findings apply most straightforwardly to full-time teenage students. Generalisability of findings to non-students and to other settings is unknown. On the basis of the findings, however, optimism about the potential of future intervention study to identify benefits in other settings with young people appears warranted.

Non-probability sampling methods are common in intervention studies. Typically, help-seeking or similar opportunity is the basis on which participants are recruited. Even in large-scale international collaborative projects, random sampling from a known population is not employed (Babor & Grant, 1992). In this instance, peer networks were accessed and participation motivated by amongst other things, peer factors, interest in the study, and payment for interview. It follows that those who are socially isolated, disinterested in issues raised by the study or in payment will have been under-sampled among full-time students.

As a multi-site study, idiosyncratic locality factors can be ruled out, but generalisability beyond London is open to question. Fieldwork for this London-based study coincided with that of the British Crime Survey. The data for the previous round of data collection were obtained to check the feasibility of comparative analysis. This will allow comparisons with a contemporaneously randomly-drawn sample of 16-19 years olds when those data become available.

The identification of sub-groups amongst whom the effect of the intervention varies is encouraging. Higher risk indicator propensity to benefit is particularly noteworthy in this respect and would seem to support the feasibility and potential value of the Connexions strategy. Enhanced attrition among those who had ever used crack cocaine is difficult to interpret. Ongoing crack use at study entry was very low. No other drug use involvement variables were relevant to attrition. Nonetheless, this may be a marker of elevated risk or vulnerability for which further study would be required.

As an exploratory efficacy study, it remains to be seen whether benefits observed will be replicated in future studies and also whether it will be secured in routine service provision. Not only were interventions delivered by an 'outside' researcher, they were done so by someone in the positions of having adapted the intervention and also himself evaluating the intervention. The conclusions drawn from this study, are articulated in the next chapter. These observations on the scientific and policy and practice implications in chapter 9 conclude the thesis.

CONTENTS

CHAPTER 9 CONCLUSIONS & IMPLICATIONS FOR FUTURE STUDY, POLICY & PRACTICE

Introduction

A brief statement of conclusions is presented, drawing upon the interpretation of the findings set out in the previous chapter. This has required consideration of both the extent and nature of observed differences between Intervention and Control groups and threats to the validity of these observations. Implications for further study, policy and practice are suggested on the basis of conclusions drawn.

9.1. Statement of Conclusions

The brief motivational interview has been shown to result in a range of changes in the drug use and related risk behaviours of the study sample, subject to a number of qualifications. Most strikingly, intervention benefits have been identified across a range of drugs, with reduced use of cannabis, cigarettes and alcohol. Beneficial changes in drug use are predominantly in the form of reductions in use (lower frequency or quantity consumed), rather than increased levels of cessation or reduced levels of initiation.

Change in aspects of psychological and interactional risk has also been observed, though less consistently than changes in drug use itself. Some direct effect of the intervention on harms and problems has been observed, but generally speaking there has been relatively little impact in this area. Taken together, a wide range of benefits are attributable to the receipt of this intervention in the population under study.

The most important qualifications to these remarks, which should be taken to indicate caution in interpretation of these data, are as follows. Firstly, although steps have been taken to encourage reliable data and care taken to interpret the possible impact of unreliable data, it cannot be excluded beyond reasonable doubt that unreliable self-report, or other unintended aspects of the intervention study condition, somehow account for at least some of these apparent benefits.

Secondly, there is a possibility that the groups randomly formed for comparison were not equivalent in respect of unknown, unmeasured variables, and that these differences may be related to outcomes studied and thus in part account for the findings. It would be extremely unlikely that this possibility could account for the extent of observed differences between Intervention and Control groups.

Thirdly, many statistical tests have been carried out to assess whether differences exist between those who received the intervention and those who did not. It is possible that some of the specific differences observed result from chance. The latter suggestion is thought to be least significant and the first qualification of greatest significance to the global interpretation of the findings.

It has been more difficult to draw satisfactory conclusions about outcome categories in which no or few differences between the groups are observed. In particular, limitations of statistical power have inhibited an understanding of the nature of intervention benefits in relation to illegal drug use other than cannabis use. Successful study of important psychological aspects of change is likely to have been hampered by conceptual and measurement difficulties. Some evidence of impact on harms and problems must be weighed against more evidence which suggest no impact. It is difficult to conclude whether benefits exist in these areas and have not been detected or whether they do not exist.

These data give reason for optimism that they represent an important extension to the existing evidence-base. It has been possible to identify, for the first time, evidence of benefit for teenagers, of the kind identified for adults in previous public health and clinical intervention studies. These benefits appear, in some cases, to be more pronounced for those at higher risk and in line with a harm minimization perspective on drug use. This intervention is comprehensive in targeting a range of drugs and other sources of risk. The benefits identified are comprehensive in these same terms. The implications of this study for future study, policy and practice in this area will now be examined.

9.2. Implications for Further Study

Replication of these findings is required, especially given how these findings extend the existing evidence base. Such study will add considerably to optimism about the potential efficacy of a brief motivational interview with young people who are already involved in the early stages of illicit drug use. In the design of such future study, it is anticipated that attention to the potential impact of the Hawthorne effect and to the reliability of verbal data can be incorporated without prejudice to the aim of replication.

The short-term nature of this evaluation begs questions as to longevity of the effects observed. Further follow-up of this sample and other, larger, longer term studies will provide data important in elucidating the public health potential of this approach. Likewise effectiveness study and experimental comparisons with other interventions logically follow from non-intervention controlled efficacy study.

The question of how and why motivational interventions are effective is self-evidently central to their future development and application. Stronger, theoretically informed, empirical study is required to make progress in this area. In this study, it was interesting that the limited qualitative data concerning intervention effect resembled closely the hypothesised nature of change. Carefully gathered qualitative data may help illuminate the lived experience of change. Future controlled comparisons with other interventions will also permit the experimental study of process components.

Both further efficacy study and public health impact will also be assisted by further study of the epidemiological context. The relationships between consumption, harm and risk in this population remain unclear. Ethnic differences were striking. In other areas of science, intervention studies develop from cross-sectional, longitudinal and case-control data for the very good reasons that the factors which intervention seeks to manipulate must be well understood. It remains to be seen whether methods will be developed and implemented to enhance this basic understanding. Psychometric validation, informed by theoretical and epidemiological data, will allow outcome study and the precise effects of intervention to be delineated with much greater certainty than has been possible here.

9.3. Implications for Policy & Practice

Given the nature of this study, implications for further study and policy and practice are closely related. The potential for intervention revealed by this study engenders

optimism that beneficial application to other target populations and settings may be fruitfully studied. The identification of enhanced impact for high risk young people occurs at a time of public policy concern and activity to prevent social exclusion by targeting this age group.

Notwithstanding the limited impact on problems, application to those who seek help in emerging provisions for young people may be explored. Whilst promising opportunities may arrive in light of current concerns, it should not be forgotten that evidence of benefit has been found across the study population, with obvious implications for broad-based public health targeting. The applicability of this intervention to younger and older children and young people, regardless of involvement with illegal drug use has yet to be established. Beyond individual-level interventions of this type, community interventions have been developed in relation to tobacco and alcohol. It may be that F.E. colleges provide communities within which interventions also embracing illegal drugs may be tested.

Drug policy and practice, and broader social policy have changed rapidly in recent years in Britain as a result of a new priority attached to social exclusion and young people. The Connexions strategy provides an obvious and important intervention channel. Beyond Connexions, taking health services research out of formal health services and into the community offers exciting possibilities for innovative service provision. Attention given to the use of illegal drugs should not diminish in any way the

status of alcohol drinking and cigarette smoking as major health targets, especially given their inter-relationships.

Drug use among young people will remain a controversial subject. This study points towards a possible new component of an improved public policy response. It suggests that taking proper account of psychological reactance allows one to communicate with the target population to considerable effect. The nature of this effect potentially reconciles conflicting views on this subject: Drug use has been reduced, whilst respecting the right of young people to make their own decisions about their health and well-being. Indeed, this intervention actively mobilises this right and seeks to achieve a focus on such decision-making among individuals. Finally, this intervention appears to influence young people, not only in ways both consistent with diverse perspectives on drug use and drug policy, but also in ways acceptable to young people themselves.

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APPENDICES

REDUCING RISK AMONG YOUNG PEOPLE PROJECT

1. EPISODE ANALYSIS

Undertaking an episode analysis can be a particularly helpful way to think in detail about a recent night out or a weekend. You might want to do this perhaps when you have binged or when something you didn't like has happened. Remember alcohol is a powerful drug and thinking carefully about the use of any drug is important in avoiding problems.

This is a simple tool for organising your thinking which involves asking yourself the following questions: What was happening before, during and after alcohol or other drug use? What was I thinking, feeling and doing during these time periods? These basic categories are outlined below, followed by an example. You may want to divide the after-effects or consequences into short and longer term as in the example below. Similarly you could divide the "during" interval into early and later stages of consumption. Use whatever works best for you.

	THINKING	FEELING	DOING
BEFORE			
DURING			
AFTER			

	THINKING	FEELING	DOING
BEFORE	about row with boyfriend last night	a bit low also angry	watching TV
DURING	about row with boyfriend	good - having a laugh with friends annoyed by boyfriend	drinking drunk by 12.00 another row with boyfriend
AFTER (Short term)	not much!	hungover	being sick
AFTER (Longer term)	confused about rows with boyfriend while drinking	unhappy about this	will agree to try to argue and drink less

To undertake an Episode Analysis, all you need is a paper and pen and your outline of the above categories. Another way you could use this technique is to consider what a typical episode is like, if you want to think about what this means to you. You might like to combine this type of activity with some of the other suggestions in this series. If you do not already have them, order by telephoning 020 7848 0026. Full list on reverse.

2. SELF-ASSESSMENT

Self assessment involves you routinely monitoring and recording how often and how much you are smoking or drinking. It can also be applied to other things you do - anything you may benefit from "keeping an eye on". There are two ways in which this can be helpful. 1. It may allow you to see patterns of consumption and consequences or after-effects that you hadn't realised eg being sick when you drink a particular amount of one type of drink. 2. Provides you with detailed information on how things are changing over time. You get to see not just whether you are smoking more or less than last month, but exactly by how much.

The essential components are recording amount of consumption and consequences or after-effects. Exactly what you monitor and record is up to you. The examples below contain categories found to be useful by other people.

When	How much of what	Who with	Where	After Effects	Notes
Monday	4 pints stella	Tom	Angel	Late for college	Not sure whether connected
Wednesday	2 vodkas	Mary	Firkin	none	
Friday	6 pints stella	Tom & lads	Angel	Hungover and sick	Definitely too much
Saturday	2 pints Heineken 2 vodkas	Mary	Pub & club	Bit tired	Still recovering from Friday?

Day	No. of Cigs &	Diff from target	Reasons	Cost	Notes
Monday	12	+ 2	College stressful day	2.40	Need to find better way of relaxing
Tuesday	8	- 2	Made an effort again	1.60	Didn't have one before college
Wednesday	6	- 4		1.20	Going well - only two by 3.00
Thursday	7	- 3		1.40	Keep it up - feels easier!
Friday	15	+ 5	Pub everyone smoking	3.00	Good intentions forgotten
Saturday	13	+ 3	Feeling low	2.60	No-one else to blame for today
Sunday	4	- 6	Felt relaxed	0.80	Lowest yet - enjoyed reading

To undertake a Self-Assessment, all you need is a paper and pen and to decide on what you want to monitor. Including this information in a diary or notebook should make it easier to store and use over time. You might like to combine this type of activity with some of the other suggestions in this series. If you do not already have them, phone 020 7848 0026. Full list on reverse.

3. THE PROS AND THE CONS

It is usual for people to see two sides to their use of cigarettes, alcohol or any other drugs. The pros are the things that you like about it (or can also be thought of as benefits or advantages) and the cons are the things you don't like (can also be thought of as costs or disadvantages). Thinking about the pros and the cons of your behaviour can be a useful way to see whether you might be interested in making some changes. If the costs outweigh the benefits of the way things are now, you might want to cut down, stop or change your pattern of use. Below are two examples of this exercise. Smoking and drinking are considered here and you might find it best to consider each drug separately.

Smoking

+ PROS	- CONS
1) Helps relaxation 2) Good thing to do with friends 3) Nice break 4) Nice reward after college work done 5) Enjoy the effect	1) Long term damage caused by nicotine 2) Smell 3) Cost (£20 a week) 4) Would find it difficult to stop

Drinking

+ PROS	- CONS
1) Good laugh with friends - makes my weekend 2) Puts stresses of week behind me 3) Like effect of 2 or 3 drinks 4) Like taste 5) Good for meeting boys	1) Sometimes have too much and get sick 2) Somethings do things I wouldn't want to do 3) Don't always feel safe coming home 4) Don't like taste of some drinks 5) Get up late after nights out

The first thing to consider is quantity - the length of each list. If one is much longer than the other this indicates that you see more benefits than costs or the other way round. If there are more benefits than costs you are probably, on balance, satisfied with the way things are. If there are more costs, you may well consider whether and how to make changes.

The second thing to consider is quality - how much all the things on each list really mean to you. In the first example above, it may well be that although the list of cons is shorter, they add up to something more important than the pros. Again, changing is suggested if this is so.

You can repeat this exercise regularly to assess what your attitude to the behaviour is and to think about what this means to you. All you need is a paper and a pen. You might like to combine this activity with some of the other suggestions in this series. If you do not already have them, order by telephoning 020 7848 0026. Full list on reverse.

4. RISKS, PROBLEMS & CONCERNS

Cigarettes and alcohol are drugs just as much as illegal drugs. Working out exactly what you feel or think about some aspect of your own drug use can be quite difficult. Also if there are other things in your life that you are not happy with, it may be worth thinking about the ways in which your drug use helps or makes things worse.

Categorizing issues as risks, problems or concerns often helps. Don't think it is necessarily a big deal to describe something as a problem. Most problems young people have with drugs are fairly minor. A problem can be defined as anything you don't like or don't want that is happening now. Risks are not actual problems right now, but may become so in the future. The same issue that is a risk for one person may be a problem for another.

Concerns are risks or problems that really bother you. You might find yourself worrying about these and generally they don't just go away - you have to do something. If you consider something as a concern, try and define exactly why it is a concern. The next step is to ask yourself what can be done about it. In the following example, someone who is drinking quite heavily asks themselves these questions.

RISKS	PROBLEMS	CONCERNS
1) Long term health problems 2) Possibility of drinking getting out of hand 3) Relationships with non-drinking friends may suffer 4) Possibility of getting beaten up while drunk	1) Not remembering what happens when drunk 2) Being sick 3) Hangovers pretty bad 4) Getting into drunken arguments 5) Arguments with father about drinking 6) Not getting college work done 7) Money (£35 a week)	1) Getting too drunk - Not remembering and not being in control - don't feel safe 2) Drinking more and more - family history of alcohol problems 3) Impact on college work - most important thing to me right now

Your drug use does not need to be as problematic as this before this can be a useful exercise. To do this, all you need is a paper and pen and to ask yourself which each issue belongs to. Including this information in a diary or notebook should make it easier to store and use over time. You might like to combine this type of activity with some of the other suggestions in this series. If you do not already have them, phone 020 7848 0026. Full list on reverse.

REDUCING RISK AMONG YOUNG PEOPLE PROJECT

5. DECISIONAL BALANCE

This exercise is designed to help you weigh up the advantages and disadvantages of making a particular change that you have been considering. It brings together all the factors relevant to this DECISION. The basic diagram is reproduced below, followed by an example. You need to decide are the costs worth the benefits. If you think they are, you probably will decide not to change or to think more about these issues. If they are not worth it, you will probably want to make the change. If this is true for you, the material listed under costs of changing and benefits of not changing may well identify obstacles or difficulties that you need to overcome in order to change successfully. The next step is to consider how this may be done.

	CHANGING	NOT CHANGING
BENEFITS		
COSTS		

	CHANGING	NOT CHANGING
BENEFITS	1) Improved self-esteem 2) More money (£20 a week) 3) Better at football 4) Generally fitter 5) Long term health	1) Hanging out with friends 2) Stress relief 3) Nice break
COSTS	1) Temptation 2) Eating more	4) Arguing with parents 5) Smell of clothes and breath 6) Being anti-social 7) Stigma 8) Not feeling fit or healthy 9) Being dependent!

To undertake a Decisional Balance, all you need is a paper and pen and an outline of the above categories. You might like to combine this type of activity with some of the other suggestions in this series. If you do not already have them, order by telephoning 020 7848 0026. Full list on reverse.

6. POINTERS ON USE CONTROL

Alcohol and nicotine are drugs just as much as the illegal substances usually associated with the term. The use of ALL drugs carries with it the possibility of loss of control. It is a good idea to check out if that is not happening to you. Answering the questions below does this. You can ask yourself these questions for any drug that you use. Select a time period which you want to think about (eg. last month, last three months, since college started etc.).

a) Did you think your use of _____ was out of control

never/almost never sometimes often always/nearly always

b) Did the prospect of missing taking _____ make you anxious or worried

never/almost never sometimes often always/nearly always

c) Did you worry about your use of _____

never/almost never sometimes often always/nearly always

d) Did you wish you could stop taking _____

never/almost never sometimes often always/nearly always

e) How difficult would you have found it to stop, or go without _____

not difficult quite difficult very difficult impossible

For each question:
score 0 for never/almost never and not difficult
score 1 for sometimes and quite difficult
score 2 for often and very difficult
score 3 for always/nearly always and impossible

What is your total score_____

There are details on the reverse of this page which help you interpret this score. You can repeat this exercise at different points in time as your use changes. You might like to keep this copy of the questionnaire for reference. Further copies of other suggestions in this series can be ordered free by telephoning 020 7848 0026.

THE REDUCING RISK AMONG YOUNG PEOPLE PROJECT

NOTES

Generally speaking the higher your score, the more reason for concern about your use.
If you score below 4, your use would usually be thought of as being under control.

If you score 4 to 7, there are reasons to think carefully about your use and how you much it really is controlled. You might like to test this by not using for a short period of time.

If you score 8 or more (or experience difficulty in going without), this suggests dependence. If you are not already doing so, you are at high-risk of experiencing problems. There are probably simple things you can do to make things at least a little better. Talking to someone may help you think about what to do. If you put off doing anything, things may well get worse.

7. IDENTIFYING & DEALING WITH DIFFICULTIES

When you decide to change, you will probably come across situations which make it hard for you to stick to your decision. These threaten the decision you have made and push you back to the old behaviour. The more prepared you are for these, the more likely it is that you will be successful in changing. There are three steps to successfully dealing with these difficulties:

1. Identification Knowing what will be difficult for you is essential in preparing for it. Before you make the change, brainstorm all the situations you can think of which might be difficult. Be as precise as you can about what exactly will be difficult. Do this again as you monitor your progress. Sometimes things inside you make it likely that you will be tempted to go back on your decision. For example, when worried or a bit down, it is not unusual for people to smoke or drink more. Think carefully about the sorts of times when the way you feel might make things difficult for you.

Other potential difficulties involve situations, people or places. For example, let's say you usually smoke with a particular group of friends. Hanging around with them may involve teasing or some pressure from them if you are trying to cut down or stop and they are not. Or just being with them may make you feel tempted. There are two basic ways to deal with the situations you identify.

2. Avoidance of these situations altogether may be possible. The more you address the causes of how you feel, the easier it will be to prevent this type of difficulty. For example, if you smoke when you're bored, the more you do to avoid this, the better. You might take up a hobby, or do something different instead of going to the pub. Situations, people or places can be avoided altogether or encountered less frequently. However, it is not usual to be able to avoid all types of difficulty - and when you can't, you need to learn to deal with these.

IDENTIFICATION	AVOIDANCE	DEALING WITH THEM
Internal 1 2 3 External 4 5 6		

3. Dealing with difficulties can de done successfully or unsuccessfully! The more prepared you are the better you will be at coping with them - so decide in advance what you will do. This can include things like practising exactly what you will say or do. Again, the more specific you are the better. Filling in a table like the one above can be helpful in this. - try to complete one now. There is also a full list of other suggestions on the reverse. Telephone 020 7848 0026 for free copies.

8. PROBLEM SOLVING STRATEGIES

When you realise that something has become problematic for you there are better and worse ways of dealing with it. Outlined below are six steps to successful problem solving. People who deal well with problems generally approach them in this sort of way. Unsuccessful attempts at problem solving often involve not doing some or all of these things. To do this exercise, all you need is a paper and pen and a note of these steps. You might like to combine this type of activity with some of the other suggestions in this series. Full list on reverse, telephone 020 7848 0026 for free copies.

SIX STEPS TO SUCCESSFUL PROBLEM SOLVING

1. Define exactly what the problem is.
   Make sure the problem is concrete and if necessary broken down into several subproblems.

2. Brainstorm options to deal with the problem.
   Remember - no criticism allowed - be adventurous!

3. Choose the best option(s) by examining the pros and cons of each potential solution.
   Which solution will work best?

4. Generate a detailed action plan.
   Plan the 'when, where, how and with whom' of the selected solution.

5. Put the plan into action.
   Role-play or mentally rehearse the plan and then actually carry it out.

6. Evaluate the results to see how well the selected solution worked.
   If the solution didn't work go back to stage 3 and try again!

PROBLEM SOLVING EXAMPLE

Stage 1: My problem is:
I have few friends and it's easy for me to start feeling lonely and depressed - especially in the evenings and on weekends. When I feel lonely, I usually try to drown my sorrows with beer.

Stage 2: Brainstorm possible solutions
Join a club or class in something that interests me.
Join a gym to take up t'ai chi.
Go out to discos to meet new people.
Stop living alone and look to share accommodation. Don't dwell on missed opportunities.

Stage 3: Pros and cons of each solution

Go to discos	I like dancing	Risk of drinking
Move house	Company at home	Costs time and money
Join a class	Meet people with similar interests	Worried that I won't know what to say

...and the winner is join a club or attend a class

Stage 4: What's my plan?
How Find out what's available and match to my interest (which are...)
When By next week in time for classes beginning
Where Local paper, ring up local college.
With whom See if John is interested but if not go on my own.

REDUCING RISK AMONG YOUNG PEOPLE PROJECT

9. RESOURCES FOR CHANGE

IF ANY OF THE FOLLOWING APPLY TO YOU

- You want to find out more about the risks you are taking
- You are not sure what you think about some aspect of your drug use
- You're in two minds about cutting down, stopping or changing the way you use
- You feel like you're going around in circles in your own head
- Things are not getting any better
- You need information to help you decide what to do or advice on how to change
- You are changing your drug use now (or have done recently) and would like some support

THEN TALKING TO SOMEONE CAN HELP

TALK TO SOMEONE YOU TRUST OR TRY CALLING ONE OF THE FOLLOWING NUMBERS

0800 917 8282 - DRINKLINE

0800 00 22 00 - SMOKERS QUITLINE

0800 77 66 00 - NATIONAL DRUGS HELPLINE

All are FREE to call (except from a mobile phone) and are staffed by people with experience to provide the information, advice or support that you want. These calls will not show up on a bill.

REMEMBER nicotine and alcohol are powerful drugs and it is NORMAL for most people who use them to have some difficulty at some time. TALKING REALLY CAN HELP. If you want further copies of other suggestions in this series (full list on reverse) telephone 020 7848 0026 for free copies.

Appendix 2

1. Getting To Know You: College Studies, Leisure Time, Friends, & Lifestyle

Aims & Objectives

Rapport building - for all.

Allow young person to be comfortable talking.

Create comfortable climate for more sensitive material.

Gather background information for later use.

Affirm young person in what they like doing.

Techniques

"What are you studying here at college?"

"What do you like doing when you're not at college?"

Open questions on friends, relationships, family, jobs, lifestyle and leisure time. "What about...?"

Affirmation and reflective listening emphasising positives; "you really do know what you're going to do"..."you really enjoy X"..."you really have clear ideas about X"

Gently prompt quiet or non-expansive with requests for more information on positives

End with open question as link to drug use; "where does your drug use fit in?"..."what about drinking/smoking?"

Notes

Avoid talking too much, asking closed questions and interrupting.

Try to avoid any early focus on drug use.

2. Feedback & Discussion Of Assessment Data

Aims & Objectives

To deliver information comparing personal to normative, identifying risks in so doing.

To introduce material with scope for self-motivational statements (SMS) for further discussion which may have been overlooked or ignored.

Techniques

Ask "how did you find the questionnaire?" or "what did you think of the questionnaire?"

or "what was it like to fill in the questionnaire?"

Ask if any changes since questionnaire completion.

Use neutral descriptions of normative; "other people... most users of X...sometimes what happens to others who do that"

Invite elaboration on obvious areas of risk e.g. heavy consumption.

Enquire where there are potential problems, whether and how they may be drug related.

Ask to compare own with friends and other people they know.

Ask closed questions only to clarify information and open questions in areas of likely SMS.

Ask "what do you think of all this"

Notes

Avoid moralising tone and never tell people they have a problem.

To be used as an alternative approach particularly when later stages not succeeded or when requested. Note any SMS possibilities thrown up by material.

Stress personal responsibility and freedom to choose what to make of information.

Also make clear knowledge imperfect, quite a lot not known about drug-related risks.

May have potential as a tool for development of discrepancy.

3. A Typical Or Recent Time

Aims & Objectives

To have the young person provide a detailed account of a drug use experience including emotional and behavioural antecedents and consequences.

To provide an opportunity for depth reflection on experience.

To provide additional contextual information when a longer time period used.

To reveal perceptions of or attitudes to particular risks.

Techniques

"Take me through a recent/typical time using drug(s) X. Describe to me what happens right from the beginning."

"What happens when you come home from college?"

"How do/did you feel before?"

"How do/did you feel after this?"

"What happened/usually happens next?"

Backtrack as necessary.

Enquire about typicality, peer influences and context: " (When) Is it ever different than this?"..."What about during the week/at weekends/with person X/if you're feeling down"

Notes

Note any SMS possibilities thrown up by material.

4. Good Things And Less Good Things About Drug Use

Aims & Objectives

To identify awareness of costs and benefits, including positive reasons for use.

To examine perceptions of actual or potential problems.

To identify areas of uncertainty.

To identify risk and problem recognition SMS material.

Techniques

"What are the good things (do you enjoy, do you like) about using X"

"What are some of the less good things (do you not enjoy, do you not like) about using X"

Find out why not; "how does this affect you"...

If appropriate, "you mentioned X earlier, what about that?"

Use where indicated "how does this bother you...how does this cause problems for you"

Summarise both good and less good and leave a space to react

Notes

After rapport building, articulation of good things provides helpful context for articulation and exploration of less good things.

If no less good things, go to earlier topic. If sufficient, move on to later topic.

5. What's Really Important: Values And Goals, The Present And The Future

Aims & Objectives

To elicit aspirations and values and potential threats to them.

To create a contrast between planned, intended or idealised futures in careers, leisure activities, relationships etc. and doubts about their achievement.

To create a contrast between valued relationships or activities and threats to them.

To highlight possible risks.

Techniques

"Is it OK to talk a little bit about what's most important to you?"

"What are the most important things in your life right now"..." What might take these things away from you"..."Is there any way in which your use of X might harm Y"

If not already discussed, "what are you going to do after you have left college?"

"What do you expect or want your life to be like in 5 or 10 years time"..."What might stop you achieving these things"..."Are there any ways in which your drug use might possibly prevent you from doing what you want to do".

Enquire about whether and how much, if anything, important people know about young person's drug use and what they think of it.

Prompt as necessary, "what about college/your family/friends/partner/other material identified earlier.

Notes

Start with the present, then go on to concrete plans and subsequently to longer term hopes. In the absence of clearly formed thoughts about the future, or even imagined futures, concentrate on the present.

A strong statement of non-drug use values and goals provides opportunities for developing discrepancies.

6. Risks And Problems

Aims & Objectives

To introduce for discussion the concepts of risks and problems and make distinctions between them.

To summarise extent of problems and risks identified and to consider severity.

To agree with the young person, the assessment arrived at and to identify previously unacknowledged risks or problems.

To prepare for exploration of concerns

Techniques

After introduction of concepts, ask an open question; "Before I go through my notes, is there anything we have talked about that stands out to you as a risk"..."What about problems., however small?"

Ask if there is anything about which unsure whether risk or problem.

Invite young person to choose to categorise each issue as risk, problem or neither.

Ask if any high-risk or "dodgy" situations you have come across.

Introduce material from earlier if not brought up.

Offer lists of each, underlining risks don't entail problems.

"Does this seem right?"

Notes

Topic to be used as a precursor to the exploration of concerns (about the material identified here).

Repetition of previous material helpful where it presents additional focus opportunities.

Seek to elaborate on promising material

Reflective listening particularly important here.

7. Hypotheticals

Aims & Objectives

To be used with those with whom it has not been possible to identify and agree any or many risks or problems. Hypothetical scenarios to be constructed about which the young person is able to identify risks and problems, and about which concern can be expressed.

Eliciting of hypothetical concerns to be followed by questioning of likelihood of scenarios being realised and how that might happen.

To seek to move from a conjectural dialogue to one where risk is personalised and increasingly meaningful.

To identify a need for prevention and a psychological or a behavioural control strategy

Techniques

Use structure along the lines of "If XYZ happened and you were put in position ABC what would you think or do?"

The more personalised the scenarios the better. Present them as possible futures. Use material already gathered for this purpose. Particularly from values and goals and the present and the future and less good things.

" How would you know if you were really managing this risk and it wasn't getting out of control?"

Possible material : If you started using amount X...If your boyfriend left you...if your new friends did X... if a new drug came out...if you started using at time X..if you were really unhappy...if you failed your exams..you were arrested... person X started dealing/using heroin

Notes

Exaggerating the present of unacknowledged risk or problems should provide right sort of material.

Make explicit connection between hypotheticals and possible futures - enquire as to perceived likelihood.

Use in gently confrontational fashion, being very careful not to provoke resistance.

8. Exploring Concerns

Aims & Objectives

To facilitate the young person's exploration of concerns about current problems or risks centring on those already articulated.

To gather together self-motivational statements.

To prepare young person for evaluation.

Techniques

"What (might concern/bother) concerns you about this/X"... "Why is this a concern"... "How does this affect you"..."Is this a big thing for you".."What other concerns do you/would you have".

"Can you give me an example" if unclear or to further focus thoughts.

Use summaries for each including highlighting of discrepancies

Notes

Practise empathy/reflective listening.

Don't interrupt or talk too much - short and simple questions and statements.

Use hypothetical concerns (if used) before real and connect the two to the overall evaluation. Hypothetical "to be borne in mind".

9. Evaluation & Decision-making

Aims & Objectives

To present the young person with an invitation to evaluate significance of risks, problems and concerns, whilst acknowledging good things.

To arrive at a position where a decision can be made as to whether anything need be done to avoid or manage problems.

To identify the desirability of change/action and reach a change/action decision among those ready to do so.

Techniques

Neutral opening; "Where does all this leave you"...what does this all add up to"

"Has this talk been useful to you in any way"... "in what ways" .

Information and advice to be given as requested.

Invite summary.

"Is there are any thing you might/would like to do as a result of what we've talked about".

In the absence of action response, the question can be put with more emphasis on safety and certainty. "What might be done/Is it necessary to do anything to make sure you don't run into any serious problems."

Notes

General style is 'the ball is in your court'...'what does all this mean to you.'

Don't convey impression of pushing towards a decision to change or any sort of action - resistance will result. "It's up to you."

Outcome to be clear-cut to allow for identifiable strategy for time remaining.

If no recognition of necessity for control strategy - open question, what do you want to talk about now, or offer menu - Phase 1

10. Questions & Answers

Aims & Objectives

To provide an extended opportunity for self-directed evaluation of drug use.

To empower the young person to determine the remaining course of the conversation.

To decide to proceed to phase 2 or continue with phase 1 topics.

To offer brief educational/risk awareness intervention.

Techniques

Open invitation extended to the young person to ask questions relating to anything that has already been discussed or any other aspect of own drug use.

In the event that no questions are offered by the young person, the worker may seek permission to suggest questions of possible interest (on the basis of previous material). Permission should be sought in each case. "Are you interested in knowing more about X...what about Y"

As with Rollnick et al. providing information topic, enquire as to reaction to information.

Notes

Young person generated questions much more desirable than those suggested by worker.

Neutral tone in provision of information.

Avoid expert-client dialogue by making young person active in articulating views on information given.

In the absence of any willingness to engage in personalised questioning, enquire as to relevance of information sought.

Generalised drug information provision valid intervention component.

Timing and purpose distinct from Rollnick et al.

To be used when the outcome of the previous topic is unclear.

11. Decisional Balance Exercise

Aims & Objectives

To focus on possible change, through examination of a specific change action or less desirably of a general change.

To substantiate the motivational basis for change. Whether to (phase 1) as a precursor to moving towards how to (phase 2) talk

To promote rational cost/benefit assessment thinking

To arrive at decision or motivational enhancement, or identification of areas for further consideration.

Techniques

Elaborate pros and cons of status quo before doing same for proposed change.

Take clean sheet of paper and work on list compilation together.

SMS elaboration via reflective listening, open questions and summaries.

Use costs of change as initial basis for identification of difficulties.

Consider quality as well as quantity of factors.

Notes

To be used where doubt explicitly articulated

Make presentation graphic

Get young person to do as much of this as possible.

12. Controlled Drug Use (Introduction to Self-Monitoring)

Aims & Objectives

Introduce monitoring and controlled use principles

Introduce specific materials and check for reaction, interest and perception of personal relevance.

Seek recognition of necessity for control strategy at least on psychological if not behavioural level.

Teach use of simple materials.

Techniques

Basic content informed by behavioural self-control training & advice on controlled drug use.

Introduction to self-help materials - go through them and ask for observations.

Statements along the lines of keeping an eye on things, making sure etc.

Notes

Targeting those not interested in or for whom overt consumption behaviour change not applicable.

For those who provide a generalised request for help - what can/should I do? - without wanting to being ready for action.

13. Making Plans & Making Changes

Aims & Objectives

To discuss in depth suggested change(s).

To anticipate difficulties and discuss how to deal with them.

Techniques

Let young person brainstorm, test suggestions and alternatives in order to select and develop change plans.

Die will be cast by this point in terms of level of directiveness / interactional style - continue with what appears to be working.

Ask "awkward" questions where appropriate - to prepare for possible or likely difficulties.

Enquire about previous attempts to change.

Statements confirming self-efficacy.

Include distinction between lapse and relapse.

Notes

For actions generated by young person. Convey hope and optimism about change.

NATIONAL ADDICTION CENTRE

REDUCING RISK AMONG YOUNG PEOPLE PROJECT

January 2000

PEER INTERVIEWER MANUAL

THE REDUCING RISK AMONG YOUNG PEOPLE PROJECT

- This project is funded by the NHS to identify new health needs and new ways of responding to them. This primarily involves a study of drug use among young people attending further education colleges over a period of a few months.

- Drug use is now widespread and although most young people do not have problems with drug use, some do go on to develop serious drug problems. Because of this, all young drug users can be said to have some chance of experiencing health problems as a result of their drug use. This is what is understood as being *at risk.*

- This project attempts to identify risks and how they may be reduced. It does not tell young people to stop using drugs. The study is also interested in whether drug use changes much over three months, and if so, how. We want to find out how and why young people use drugs and how they can be helped to avoid problems.

- To do this, we are collecting information, by questionnaire and interview, about the way young people use drugs and inviting half the young people involved in the project to talk about their own drug use. We are interested in whether this can make any difference to how young people subsequently use drugs.

- The young people we want to participate in the project are those aged 16 - 19 who use cannabis and stimulant drugs like amphetamines, ecstasy and cocaine. They are called our "target population" and are described more fully later..

- Students from colleges across London are participating in the project. There will be at least two peer interviewers and the target for recruitment is 20 people per college.

- There are three stages to the project, which are described in more detail later:

1 Recruiting people you know to participate in the project.

2 Distributing a questionnaire, helping them to complete it, and collecting all questionnaires for return to the researcher.

3 Arranging either one or two interviews for those students you have recruited.

- The information we get is very important. It needs to be honest, accurate and complete. To help make sure we get information like this, we make sure everyone knows that everything they tell us is completely confidential. We also pay expenses to peer interviewers and students participating in the project to show that that we value their contribution. Expenses will not be paid to those who are dishonest.

CONFIDENTIALITY

The success of this project depends (among other things) upon students having complete confidence that their participation and any information they provide will not be disclosed to staff, other students or anyone else. Your role in this is vital. Students themselves may tell other people of their participation or information given, but we must not, under any circumstances. This is what confidentiality means for us and it applies to all three stages of the project.

- Information provided by questionnaire will be shared with the peer interviewer only if the participant wishes this.

- Names and contact details are to be asked for in case there are difficulties in following people up for interview. This information will be kept separate from other information given. It is not essential for participation, but it does make things easier.

- All information will be enclosed in sealed envelopes and stored in locked cabinets in locked rooms.

As well as understanding the importance of confidentiality and being committed to maintain it, there are some things that you must definitely NOT do.

- You should NOT tell anyone who is participating in the study and do NOT give any personal information about participants to anyone else including other participants.

- Do NOT leave completed questionnaires (which will be in sealed envelopes) or other project materials anywhere that someone may take them.

- The peer interviewer must NOT act in ways which draw attention to their activity.

Non-participating friends of the peer interviewer should only be informed of the general nature of the project and the requirement to protect information about participants. The staff contact will not enquire about confidential information.

The only possible exception to our assurance of confidentiality (which is very unlikely to happen) is where someone's life is endangered. In this case, the researcher will consult with the project supervisor on appropriate action.

THE ROLE OF PEER INTERVIEWER

- The project attempts to recruit participants to the project via peer networks (people you already know). Two advantages of this method include speedy recruitment of people to the project and a better chance of being able to find them again for a follow-up interview.

- Peer interviewers will know sufficient numbers of students they think are eligible for this project. Where there are unexpected difficulties, they will seek to recruit friends of friends to the study. There should be no approaches to strangers at any point.

- Once potential study participants have been identified following discussions with research staff, the peer interviewer will approach these individuals in stage 1 of the project. You are to briefly explain the study, check eligibility, and invite those eligible to become involved. Those who agree are to be asked to sign a form which indicates their consent. They need not use their own name.

- In stage 2, the peer interviewer will distribute, help with completion where necessary, and collect questionnaires. You then return them in sealed envelopes to project staff or staff contacts. The peer interviewer will ask participants that all questions have been completed and assist with any attempts necessary to collect incomplete information. Stage 2 can begin immediately after stage 1.

- This and all other information from participants will be treated confidentially. The content of questionnaires will become known to the peer interviewer only if the person completing the form shares this information with them.

- In stage 3, after groups have been allocated to receive one or two interviews, the peer interviewer will help with arrangements for interviews. This will mean acting as a "go between" and involve timetabling of interviews in line with student availability on interviewing days.

- Throughout the project peer interviewers will be expected to keep in contact with participants, recording and notifying any significant changes affecting study participation e.g. leaving college.

TARGET POPULATION

- The study target population is young people aged 16 - 19 years old who are current cannabis and stimulant drug users who fit the following definition; used cannabis within the last month; AND used amphetamines, ecstasy or cocaine on at least two separate occasions within the last three months; OR use cannabis every week.

- Students are not eligible for the project if they have ever used heroin, methadone, or any drug by injection or ever attended a drug or addiction service. Also they are not eligible if; they have ever been seen by a psychiatrist; or been in local authority care or are pregnant or expecting to go into hospital before Easter.

- These characteristics are included in the eligibility checklist. You should complete the responses of everyone who you approach, including those who turn out to be ineligible.

STAGE 1: RECRUITMENT

- After reading this manual it is important to ask the researcher any questions you have arising from this material. If you haven't been already, you will be asked about the people you know at college (and beyond) who you think may be eligible for the project.

- You will be asked to introduce the project to these people by briefly describing it and see whether they may be interested. You may also take a questionnaire for a "trial run" where you are asked to go through it with one of your friends, explaining to them what each question is asking and in which ways it should be answered. If this goes OK, we will sign a brief contract where you commit yourself to doing the things that have been described in this manual.

- To recruit people to the project, you will need to speak to them again about the project. This is best done with just the two of you present. If other friends are around, make sure they don't interrupt or listen in. Probably, some people who you think will be eligible won't be. You will find this out when you ask them the questions on the eligibility checklist. This is because they are not part of our target population and you should explain to them that we are looking for specific types of young drug users.

- For those who are eligible, briefly summarise again what the project involves, including confidentiality, and explain to them why we need them to sign a formal consent form. This need not be with their own name. They should read the information for participants sheet as well as the consent form before giving consent.

- Participants should be clear from the beginning what payments are available and how they are paid, as well as how we check honesty. There is no payment for the completion of the questionnaire. Everyone will later be interviewed once or twice and receive £10 per interview. Again a signature is required to say that this has been received.

- Once the information on the project has been given and any questions answered, the eligibility and consent forms completed, your friend has been recruited to the project.

STAGE 2: THE QUESTIONNAIRE

- Stage 2 should begin as soon as stage 1 is successfully completed with the signing of the consent form. At this point, the questionnaire can be handed to the participant and they should be asked to read the front sheet at this time.

- This outlines the importance of honesty, accuracy and answering all questions, except those specifically refused, and some general guidance on form completion as well as the help that is available in completing the form. The participant may decide either to complete the questionnaire there and then or to take it away.

- If they decide to fill it in straightaway, you should stay in their company or return at five or ten minute intervals to see that they are getting on OK. This is the preferred method as it allows the quickest completion of the questionnaire and you are on hand to help with any difficulties. Give each person any help that they want in filling in the form. On average, it should take around twenty minutes to complete it.

- Participants also have the option of taking the form away for completion. They may do this because they don't have the time then or they are likely to be interrupted by others. If they do, you should make an arrangement to get the completed form from them that day or within two or three days at the latest.

- Lastly, the participant can ask you to go through the whole questionnaire with them. This shouldn't take any longer than 20 minutes or so. Write down exactly the answers which you are given, even if you doubt the truthfulness of the information.

- Whenever they complete it, when they return it to you, you should ask have they understood and completed every single question. If they have not, you can offer to help with remaining questions. Help given should be informed by this manual. Remember also that participants can refuse to answer any question, which they should do by making a capital R with a circle around it.

- Seal the questionnaire in the envelope addressed to the project in the presence of the participant. Separate the last page containing names and addresses, making sure that the number on this form is the same as the number on the front of the questionnaire.

- If there are questions that have not been completed, or if they contain information that we want confirmed, we may ask you to return to the participants with an envelope asking for the required information. Better first time round!

- In addition to these procedures for ensuring the completeness of the information, peer interviewers will be asked if they have become aware of any inaccuracies or dishonesty in helping participants to complete the questionnaire.

STAGE 3: INTERVIEWS

- After completion of stage 2, it will be decided whether your group will be interviewed once (roughly three months after questionnaire completion) or twice (soon after questionnaire completion as well as three months later). We will contact you to let you know which shortly after stage 2.

- The three month interview, which everyone receives, is known as the follow-up interview. It mainly consists of a researcher asking questions. The other interview, which half the study group will receive, is called a motivational interview. This provides participants with the chance to talk or ask questions about their own drug use. The researcher will make some suggestions but the participant can basically decide what to talk about.

- Both interviews will be timetabled to last for up to one hour.

- Between the questionnaires being completed and the interviews being arranged, we expect you to keep in touch with all your group of participants. We need to know if any of them leave college or anything else affecting their availability for interviews. These details should be recorded in the events affecting participation log.

- The role of the peer interviewer in this stage is mainly organisational. Once we have agreed days for interviewing, the peer interviewer is to check out with the group who is available for interview at what times. They can then put together a timetable of interviews. Usually this will involve around 5 interviews per day.

- All interviews are expected to be completed before the end of May. At this time, peer interviewers will be paid their well-earned expenses of £5 per participant or £50 in total if they have recruited 10.

THE IMPORTANCE OF HONESTY, ACCURACY & COMPLETENESS

- The way you act as a peer interviewer will have a very important influence on the quality of the information we collect. We need this information to be of high quality to allow us to find new ways of meeting the needs of young people who use drugs and of helping to reduce risks.

- In discussing the project with participants, you should make sure they understand the value of the information to be provided. It is waste of everyone's time collecting information that is not honestly or accurately provided.

- We have built into the project a number of ways of checking the honesty and accuracy of the information we receive from study participants. These include repeat questioning and the analysis of hair samples, in which recent drug use can be detected. We will ask to speak again to people whom we suspect of dishonesty. Participants should know that we expect to find out if they are being dishonest.

- Where questionnaire information is incomplete, we will make one further attempt to collect the missing information. This may involve you returning to the people you have recruited with a request for this information.

- As well as the above procedures, it is expected that you will notify us if you have any concerns about participants' honesty.

- Peer interviewers who upon investigation are found to have been dishonest will not be paid any expenses.

- References can be provided for peer interviewers on request after the end of the project. These will explicitly state that your conduct was found to be honest, trustworthy and reliable.

CONTRACT

The details of the role of peer interviewer and associated activities are laid out elsewhere in the manual. This sheet briefly summarises and formalises the agreement reached between researcher and peer interviewer.

The researcher will:

- Agree target numbers to be recruited.
- Provide support as required by the peer interviewer in liaison with the staff contact.
- Provide project data as requested.
- Support learning in relation to research methods, working with young people, or drug use information as requested.
- Ensure prompt payment of expenses.
- Provide prompt references on request.

Signature.....Date.....

The peer interviewer will:

- Recruit peers in line with targets, access and eligibility requirements.
- Assist with questionnaire distribution, assistance and collection.
- Assist with the arrangement of interviews.
- Pay particular attention to the importance of confidentiality.
- Perform in the role of peer interviewer as set out in the manual and as agreed with the researcher.

Signature.....Date.....

ELIGIBILITY CHECK

The purpose of this sheet is to check the eligibility of all people approached to participate in the project. All questions should be asked verbally and all responses noted (N.B. including those from ineligible individuals). Ask the questions in your own words as agreed with the researcher. Put a tick in the correct place for each response.

Cannabis use within last month?

Yes															
No															

Two episodes of stimulant drug use (amphetamines, cocaine or ecstasy) within previous three months?

Yes															
No															

Use cannabis every week?

Yes															
No															

Ever used heroin or methadone?

Yes															
No															

Ever injected or been injected with any drug (apart from by a doctor for medical purposes)?

Yes															
No															

Ever seen a psychiatrist?

Yes															
No															

Ever attended an addiction or drug service for help with a drug problem?

Yes															
No															

Even been 'in care' or accommodated by a local authority social services department?

Yes															
No															

Pregnant or expecting to go into hospital before the end of May?

Yes															
No															

Individuals approached are eligible for participation in the project if they answer 'yes' to two of the first three questions and 'no' to all the rest.

THE REDUCING RISK AMONG YOUNG PEOPLE PROJECT: INFORMATION FOR PARTICIPANTS

- This project is funded by the NHS to identify new health needs and new ways of responding to them. This primarily involves a study of drug use among young people attending further education colleges over a period of a few months.

- Drug use is now widespread and although most young people do not have problems with drug use, some do go on to develop serious drug problems. Because of this, all young drug users can be said to have some chance of experiencing health problems as a result of their drug use. This is what is understood as being *at risk*.

- This project attempts to identify risks and how they may be reduced. It does not tell young people to stop using drugs. The study is also interested in whether drug use changes much over three months, and if so, how. We want to find out how and why young people use drugs and how they can be helped to avoid problems.

- To do this, we are collecting information, by questionnaire and interview, about the way young people use drugs and inviting half the young people involved in the project to talk about their own drug use. We are interested in whether this can make any difference to how young people subsequently use drugs.

- The young people we want to participate in the project are those aged 16 - 19 who use cannabis and stimulant drugs like amphetamines, ecstasy and cocaine.

- The information we get is very important. It needs to be honest, accurate and complete. To help make sure we get information like this, we make sure everyone knows that everything they tell us is completely confidential. We also pay expenses to peer interviewers and students participating in the project to show that we value their contribution. As money is involved, we have procedures for checking the honesty and accuracy of information. Expenses will not be paid to those who are found to be dishonest.

CONSENT FORM

I have read the sheet given to me entitled "The Reducing Risk Among Young People Project: Information For Participants". I understand that this study involves the collection of information on drug use and risk through questionnaire and interview methods. I also understand that I may be invited to an interview to discuss my own drug use and the project will study the effect of this.

This project is being undertaken by the National Addiction Centre, 4 Windsor Walk, Camberwell, London SE5 8AF. I expect that all information I provide will be treated confidentially. I will be asked for my name and contact details, though it is not essential for me to provide this information. I may use names other than my formal name.

I have been advised that I shall be paid £10 expenses in cash or voucher form for each interview which I undertake. I shall not be paid for completing the questionnaire. I have also been advised that I may be requested to provide a hair sample to confirm the reliability of information given.

I may refuse to answer any questions on the questionnaire or during interviews, without having to provide reasons for this. This will not disadvantage me in any way.
I understand that I have the right to decide at any point that I no longer wish to be involved in this project. I understand also that I do not have to give reasons for withdrawing.

Signed.....Date.....

MONITORING FORM 1

RECORD OF CONSENT REFUSALS & REASONS GIVEN (IF ANY)

RECORD OF QUESTIONNAIRES NOT RETURNED

MONITORING FORM 2: HELP GIVEN TO COMPLETE QUESTIONNAIRE

This form should be added to for every respondent. Enter the number of each person in one of these three categories according to how the form has been completed. If help is given on particular questions estimate how many in brackets eg 8 (3) indicating number eight received help with around three questions.

Entirely self-completion - no help given with any questions.

Help given with particular questions.

Interviewed or gone through all or nearly all the form with the participant.

Reason to doubt honesty or accuracy of information provided (Make brief notes on reverse).

MONITORING FORM 3

NUMBERS & CONTACT DETAILS

1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

EVENTS AFFECTING PARTICIPATION

CONTACT DETAILS

Peer Interviewer Name

Participant No.

We will want to interview you once or twice over the next three months. We will contact your peer interviewer to make arrangements. If this proves difficult for any reason, it is helpful to us, if you provide the information requested below. This will allow us to contact you through the information you provide. Any telephone or written contacts will identify you only as a participant in a study of young people's health and the project title will be used. No reference to drug use or the National Addiction Centre will be made. No-one will be able to know from the way we contact you that drug use is involved. You should include only information below that you are happy for us to use, if necessary. Any information provided on this sheet shall be kept separately from the questionnaire. This information is not essential and not providing it does not stop you participating in the project.

Any names by which you are known
Address
Telephone No.
Other project participants who may be able to contact you

NOTES ON QUESTIONNAIRE ASSISTANCE

General Guidance

The questionnaire has been designed for self-completion. Instructions are given to participants on how they should approach the questionnaire as a whole, as well as for specific questions as necessary. Not everyone will be able to, or choose to, complete the whole questionnaire without any assistance. You may be asked to help with particular questions or to go through the whole thing. In both cases, likely difficulties will arise from participants understanding of the questions; what exactly is being asked and how should it be answered. The most important preparation for you therefore is to make absolutely sure YOU know and understand each question thoroughly. After the training session, make sure you clarify any doubts you have about the questionnaire BEFORE distributing it to fellow students. A simple telephone call is all that is necessary to check anything out with the researcher.

Apart from misunderstandings, the main thing to make sure when you are helping is that you do not "lead" the participant to particular answers. This usually happens when you suggest responses or ask questions in a way that makes one response more likely than another. For example, you don't do this do you? "Leading" questions prevent us from gaining an accurate picture of what is really going on.

If a participant is vague or gives more than one answer, ask them to be precise and choose a single response. All responses must be those of the participant and should not be influenced by you, so that we can meet our aims of finding better ways of helping people.

Specific Questions

The following points contain additional information that it was not desirable to include on the questionnaire itself. These may be helpful in the event of difficulties with particular questions and how they should be answered. If these points don't address any problem you encounter, encourage the participant to provide information on the form to the best of their (and your) understanding of the question. If the problem relates to answer categories, encourage the participant to write relevant information alongside the question.

Section 1

Q1 "Occasionally" means any ongoing smoking less frequently than every week.
Q2 Age of first use of own cigarette/roll-up required.
Q5 Asks for age of first use of own drink - not a small share of someone else's.
Q6 Will be used to calculate units of alcohol. Encourage people to be as specific as possible with quantities. Also with types of drink, if lager/cider or beer referred to, ask was it strong or ordinary. Brand names are best of all.
Q7 "Occasionally" means any ongoing smoking less frequently than every month.
Q8 Asks for age of first experience of cannabis smoking, including sharing someone else's.

Q11 Asks for age of first experience of use of any of these drugs, again however small the amount.
Q13 . Use fractions of grams (one quarter, half etc) for amphetamines and cocaine as necessary.
Q15 Asks for age of first experience of use of any of these drugs, again however small the amount.
Q16 Asks about any type of written record (and Q17).
Q18 Includes any type of telephone helpline, not just those dedicated to drug use.

Section 2

All questions in this section which refer to drugs should be taken to include legal as well as illegal drugs, except for Q10.
Q2 Is a marks out of 10 question. 10/10 indicates the highest possible enjoyment and 1/10 lowest possible enjoyment/pleasure. Most people can be expected to answer between the two.
Q6 Asks how accurately these statements represent what the participant is thinking or doing now.
Q8 Is another marks out of 10 question. 10/10 indicates as positive about drugs as it is possible to be, and 1/10 the opposite.
Q9 Is a similar type of question with less numbers and where the middle number means something specific (neutral).
Q10 Asks only about illegal drugs, over the three months as a whole. It does not relate to specific bad experiences.
Q11 & Q12 Ask about friends in general, not just best friends or one particular group.
Q13 "Offered" means being asked to try or.buy.
Q14 & Q15 "Been present" usually means in the same room. If venue in question is bigger than a room, could be taken to mean in your group.
Q16 Asks about arrest for any type of offence.
Q17 & Q18 Ask about any type of criminal offence, no matter how small.

Section 3

Q1 If very concerned about divulging information day of month need not be included.
Q7 If not known, write down name of area in which resident. If very concerned about divulging information last two letters of postcode need not be included and the area also written down.

NATIONAL ADDICTION CENTRE

REDUCING RISK AMONG YOUNG PEOPLE PROJECT

STAFF CONTACT GUIDANCE NOTES

1) THE NOMINATION PROCESS

- You might start by listing groups of students with whom you have direct or indirect contact (for example, via colleagues), bearing in mind the study target population (see 3). Consider opportunities available for introducing the project. Identify times during which such presentations or conversations may be conducted.

- Decide whether to discuss the project with groups or individuals. If you already know individual students who you think may be suitable, introduce the project to them. For groups that you do not know well, whole group introduction may be appropriate. Invite expressions of interest from such groups on an individual basis.

- With individuals, make some preliminary assessment of suitability. Check how closely they have the personal qualities we are looking for (see 5). In the case of access to the target population, enquire simply whether they think they know a lot of people at college who will be eligible for participation in the study. If you have doubts about suitability, particularly amongst students whom you do not know well, nominate them for informal interview. I will ask for some brief information on each student and you can use this opportunity to pass on any doubts or concerns that you have,

- Discuss the background to the study, what is expected of the role of peer interviewer and what they may gain from involvement in the study. Use the training manual as the basis for these discussions. Interests in work or further study involving young people, drug use or the research process should be noted.

- Remember that the nomination target of four or more students will invariably include those who are not suitable. The invitation to be offered should be along the lines of finding out more about the role and the project and potentially becoming peer interviewers. The informal nature of this first meeting with the researcher should be stressed.

- Where a group of friends is interested, it should be explained that usually no more than one of them will be suitable for the peer interviewer role. Each peer interviewer is expected to recruit participants from amongst their own peers, so it is desirable to access different peer networks.

- The target is to identify four or five students, including roughly even numbers of males and females to provide a pool from which to select peer interviewers. If more than this number express interest this can be accommodated so long as students interested can all be available for informal interview around the same time.

2) PROJECT INTRODUCTIONS & DISCUSSIONS

- The project can be briefly summarised verbally, in the following terms. The project is a study of drug use among young people involving a questionnaire and one or two interviews. All students will complete questionnaires this term and be interviewed by research staff next term. Half the students will also receive another interview (this term) which will be educational and give students an opportunity to talk about how they see their own drug use.

- An outline of the project has been prepared for students as part of the training manual. This is positioned at the beginning of that document and is titled; "The Reducing Risk among Young People Project". This can be used to further introduce the project to groups or individuals expressing interest.

- Confidentiality concerns may loom large in student decision making about undertaking the role of peer interviewer, as well as amongst peers considering study participation. Assurances may be given that this issue is taken seriously by the project, all data collected being treated confidentially and that material has been prepared in the training manual on this issue. This may be consulted as required.

- Where assurances of confidentiality are given and believed by young people, talking about drug use is usually not problematic. This, however, depends in part on the context of the conversation. Detailed discussions between staff and students about the nature of personal or peer drug use need not form any part of the initial introductions. These areas shall be explored by research staff.

- It should be conveyed strongly to prospective peer interviewers that no assumptions will be made about their own drug using status. The peer interviewer may or may not be part of the target population. Their primary characteristic is that they have access to (rather than belong to) the target population.

- Any personal information disclosed to the staff contact in the course of project discussions should be treated in confidence. Personal information should under no circumstance be disclosed to any other party apart from the research staff. Permission should be sought from the student for the disclosure of any such information which is relevant to the project.

- The staff contact is not expected to have any direct contact with or knowledge of study participants other than the peer interviewer. If the participation of others does become known to the staff contact this should under no circumstances be disclosed to any other party within the college.

3) TARGET POPULATION

- The study target population is young people aged 16 - 19 years old who are current cannabis and stimulant drug users consistent with the following definition: They have used cannabis within the last month and used amphetamines, ecstasy or powder cocaine on at least two separate occasions within the last three months. Additionally, these stimulant drugs have been used on a lifetime basis on at least five occasions.

- Participating students should be intending to remain at this college until Easter and not intending to stop drug use before then.

- Various exclusion criteria are outlined below which either identify characteristics likely to inhibit investigation of the effect of intervention or are not widely distributed within the target population of young stimulant drug users.

- Exclusion criteria are as follows; ever used heroin, methadone, or any drug by injection or ever attended a drug or addiction service; any history of mental health problems or learning disabilities requiring specialist healthcare; any history of homelessness, local authority care or accommodation; currently pregnant or expecting to go into hospital before Easter.

- The study population as a whole is intended to be representative of London teenagers who meet these criteria. It should thus have roughly equal gender proportions and be ethnically diverse. It is desirable that study participants are drawn from socioeconomically deprived areas and households.

4) THE ROLE OF PEER INTERVIEWER

- The project attempts to reach the target population via young people who already know each other which can be called peer networks. The advantages of this method include speedy recruitment of people to the project and a better chance of being able to find them again for a follow-up interview.

- Peer interviewers will know sufficient numbers of students they think are eligible for this project. Where there are unexpected difficulties, they will seek to recruit friends of friends to the study. There should be no approaches to strangers at any point.

- Once potential study participants have been identified following discussions with research staff, the peer interviewer will approach these individuals, explain the study, check eligibility, invite those eligible to become involved and obtain formal consent. There are forms provided for doing these things in what we have called stage 1 of the project.

- In stage 2, the peer interviewer will distribute, help with completion where necessary, collect questionnaires and return them in sealed envelopes to project staff or staff contacts. The peer interviewer will ask that all questions have been completed and assist with any attempts necessary to collect incomplete information.

- This and all other information from participants will be treated confidentially. The content of questionnaires will become known to the peer interviewer only if the person completing the form shares this information with them.

- In stage 3, after groups have been allocated to receive one or two interviews, the peer interviewer will help with arrangements for interviews. This will mean acting as a "go between" and involve timetabling of interviews in line with student availability on interviewing days.

- Throughout the project peer interviewers will be expected to keep in contact with participants, recording and notifying any significant changes affecting study participation e.g. leaving college.

5) PERSONAL QUALITIES OF PEER INTERVIEWERS

- The ability to fulfil the primary requirements of the role define the personal characteristics sought among prospective peer interviewers. The capacity to recruit peers and to keep in contact with them so that they stay in the project and are available for interviews is essential.

- Access to sufficient numbers of the target population will be examined by research staff in informal selection interview. This will take the form of detailed discussion of peer networks and groups and their drug using and other characteristics affecting participation. Willingness to engage in this type of discussion is necessary.

- The peer interviewer should be capable of handling all interactions with peers throughout the process in the manner required by the study. This involves being able to explain study purposes and procedures and honesty in reporting of all activities.

- Particular importance is attached to confidentiality. The peer interviewer must be able to appreciate this and act in accordance with guidance on this subject.

- Good communication skills are necessary for assistance with questionnaire completion.

- The peer interviewer must be well-organised, both to manage activity in ways which don't compromise their own studies and also in the making of arrangements for and with others, for example in the timetabling of interviews.

- The project provides learning opportunities for those with interests in further study or work with young people, drug use or research methods.

6) AFTER NOMINATION: FURTHER ASPECTS OF STAFF CONTACT ROLE

- Upon completion of the selection and training of peer interviewers, there remains ongoing liaison work to ensure smooth running of the project at the college

- Study recruitment difficulties will be resolved between the peer interviewers and research staff. Staff contacts will be kept informed of progress and be aware of allocation (to intervention and control groups), so that they know with which group each peer interviewer's activity is concerned.

- Security and visitor arrangements for research staff should be clarified and communicated in advance of interviews. Arrangements need to be made so that the research staff can enter the college to meet students in the absence of staff.

- Staff contacts may be requested to receive and store sealed envelopes containing completed questionnaires and to be available to advise peer interviewers on minor data collection procedures should any such assistance be required in the absence of research staff.

- Support arrangements for peer interviewers have not been pre-specified, but it is expected that both research staff and staff contacts will be able to give students opportunities to talk as they require.

- It will be necessary to book a room for interviews to be held over two days during November and over four days in February and/or March. The room should allow easy access to students and be discreet enough to satisfy confidentiality concerns.

- Reporting to senior management on the progress of the project should be determined locally.

NATIONAL ADDICTION CENTRE

REDUCING RISK AMONG YOUNG PEOPLE PROJECT

SUMMARY OF PROJECT PROPOSAL

STUDY OVERVIEW

- This R & D project evaluates the effectiveness of a newly developed, brief intervention with individual young people who are already using illegal drugs and are at risk of increasing harm.

- The intervention is a one hour interview which raises awareness of risks, explores concerns and advises how risks may be reduced. Self-help materials are provided to support ongoing risk reduction.

- Change in patterns of drug use in young people over a three month period between the two assessments will also be studied.

- Reaching the intended population through the Further Education sector enhances the educational aspects of this approach.

- The study uses a randomised cluster design, whereby young people are allocated in clusters (groups of ten) to intervention or control groups.

- The control group complete a baseline and a follow-up assessment after three months. The intervention group additionally receive the brief intervention.

- Each cluster is recruited to the study by a student acting as a peer interviewer. They themselves will have been nominated by a college staff member.

- It is expected that equal numbers of students from each college, usually a total of twenty, will be allocated between intervention and control groups.

- Expenses are paid to both peer interviewers and study participants as compensation for their time.

- Study procedures are managed to ensure confidentiality, to recruit and retain participants and in accordance with ethical practice.

BACKGROUND TO & RATIONALE FOR THE STUDY

- Recent surveys have identified record levels of illegal drug use among young people, with the highest prevalence of drug use being between 16 - 19 years old. New forms of drug prevention are required to address this.

- Evidence from the U.S. indicates that young people who use drugs may pass through a series of stages of drug use or "gateways" on the way to drug problems.

- The use of illegal drugs other than cannabis, particularly stimulant drugs such as amphetamines and ecstasy, may serve to identify those who are at risk of progression to high risk or harmful drug use.

- Heroin and other opiate use, crack cocaine use and the use of drugs by injection are all associated with significant drug problems and are as yet relatively uncommon in this age group.

- Drug dependence is widely recognised to be very entrenched and difficult to change, whilst "early" intervention offers the potential for achievable long term benefit.

- Other recent research indicates that deprivation and social exclusion are strongly related to the likelihood that a young person's drug use will become harmful both to themselves and to the community.

- Interventions which have proven to be successful among smokers and heavy drinkers may be applicable to this group.

- *Brief motivational interviews* involve increasing risk awareness, exploring concerns and assisting in risk reduction.

- This project strives to meet objectives set out in the national drugs strategy and is in line with current policy on illegal drug use and social exclusion.

BENEFITS TO THE COLLEGE ARISING OUT OF STUDY PARTICIPATION

- This project offers significant learning opportunities for both staff and those students who act as peer interviewers in relation to the research process and to the general subject area.

- It is hoped that the research will produce clear evidence of benefits for those students who receive the motivational interview.

- These are expected to result in reduced risk of drug problems through; a) the adoption of risk reduction strategies; b) lower drug consumption and; c) improved psychological well-being.

- Benefits of a similar type but at reduced levels are expected for the control group. Research indicates that these will be conferred by the two assessment exercises undertaken.

- The research data will be made available to the college in the following forms: 1) College's own data summary; 2) London colleges data summary; 3) Comparisons with general population survey data on young people. Advice on interpretation and implications will be available.

- These data should be useful for local planning of any drug -related activity and study participation provides a valuable demonstration of evidence-based commitment to such activity.

- If requested by the college, it may be possible at the follow-up stage, to collect information considered to be of use locally. This would need to be discussed with research staff at an early stage.

- Following both rounds of data collection, research staff (Jim McCambridge) will be available to advise on any matters relating to drug use in the student population to which the college wishes to give attention eg. contacts with local agencies, hosting of special events, policy issues etc.

ROLE OF THE STAFF CONTACT

This position is best occupied by someone with a pre-existing interest or role-commitment in this area. Teaching, advisory, support and youth work staff have all been suggested as possibilities. The functions of the role are as follows:

- To assist planning and advise on implementation practicalities.

- To nominate students as candidates for peer interviewer roles.

- To liaise with peer interviewers, research staff and colleagues (if necessary), to be updated on progress and to ensure smooth running of the project.

- To report to a senior manager on the ongoing conduct of the project as required.

ROLE OF THE PEER INTERVIEWER

To be suitable for this role, young people must be; a) honest and trustworthy; b) able to contact at least ten amongst their peers who are current users of cannabis and stimulant drugs and; c) capable of relating to peers in the manner required by the project; d) be willing to be interviewed and trained at the college. The functions of the role are as follows:

- To recruit to the study ten participants.

- To screen for eligibility and obtain written consent from participants.

- To distribute, assist with completion where requested, and collect self-completion questionnaires in sealed envelopes.

- To liaise with research staff to address incomplete responses, and make arrangements for interviews.

- To maintain contact with or knowledge of participants throughout the study period.

- There may also be opportunities for peer interviewers to be involved in standardised interviewing at follow-up.

PLEASE READ THIS INFORMATION SHEET CAREFULLY BEFORE COMPLETING THIS QUESTIONNAIRE

Thank you for agreeing to participate in this project. You will have been asked to complete this questionnaire as part of "Reducing Risk among Young People". We want to find out more about how young people use drugs, what they think about their use, what risks there are and how they can be reduced. If you want more information on the project or have any questions about the questionnaire, please ask!

Confidentiality is guaranteed in this project. No information you give will be disclosed to anyone apart from the researchers. The person who has recruited you to the project will only ever know as much as you tell them.

We value your information and ask that it be honest, complete and accurate. There are some questions which ask you to remember something you've done and others which ask you to think about something. If you don't know exactly, please estimate or guess as accurately as you can.

You do not have to answer every single question. If you do not want to answer a particular question, indicate this by putting a capital R with a circle round it. We want the information to be as complete as possible. If you do not do this, we will assume that you have missed this question and ask you for the information at a later point. Remember you can withdraw from the project at any point, without having to give reasons.

We are not expecting that you will be able to answer every question without asking for some help. We do expect that you will be able to complete the questionnaire in 20 minutes or so. There are 49 questions in total in three sections and on eight numbered pages. The first two sections have 18 and 19 questions each on drug use and drug-related topics. The last section on subjects other than drug use consists of 12 short questions and should be quickest to complete. You need space and time where you can concentrate and where you will not be interrupted.

There are three ways to complete the questionnaire: 1) If you need to take it away to complete it, tell this to the person who has given it to you and make an arrangement to see them again so they can answer questions and collect the completed form from you. 2) It is best to complete it straight after you have been given the questionnaire. If you do this with the person who has given it to you nearby, they can answer questions or help as you go along. 3) If you don't want to complete it yourself or have difficulties in trying, the person who gave you the form can go through the whole thing with you. If you do this, you must remember that you will be sharing personal information with this person.

After you complete the questionnaire you will be asked for contact details. Please read this sheet carefully. Thank you again for agreeing to participate in this project. You should now tell the person who has given you this, how you are going to complete it.

Enjoy it!

SECTION 1: QUESTIONS ABOUT DRUG USE

This section asks questions about a range of drugs which you may or may not have used. If you have never used the drug being asked about, tick the appropriate "never" box and go onto the next drug. Make sure you complete each sub-section A-F. Remember to estimate if you are not sure.

A ***Tobacco Smoking*** *(do not include tobacco in joints)*

1. Which of these applies to you: *(tick one only)*

Never smoked ☐ Smoked once or twice ☐ Former smoker ☐ Smoke occasionally ☐

Smoke every week or nearly every week ☐ Smoke every day or nearly every day ☐

2. At what age did you have your first cigarette or roll-up? ☐

If you do not smoke every week or nearly every week, go to next section.

3. How many cigarettes or roll-ups do you smoke on average? ☐ per day OR ☐ per week

B ***Drinking Alcohol***

4. Which of the following applies to you: *(tick one only)*

Never drank ☐ Drank once or twice ☐ Don't drink any more ☐ Drink less than monthly ☐

Usually drink every month ☐ Usually drink every fortnight ☐ Usually drink every week ☐

5. At what age did you first drink more than a sip of alcohol? ☐

6. In the last week (the seven days before today) what alcohol have you drunk?

If you have not drunk alcohol in the last seven days, tick here. ☐

In the space below list any drinks by name you had each day, and how much of each. If you can't remember the name of anything, put down the type of drink.
As an example, someone's drinking week might look like this:

Monday		*Friday*	*2 ordinary size cans of Stella*
Tuesday		*Saturday*	*1 litre bottle of strong cider*
Wednesday	*2 pints of Heineken*	*Sunday*	
Thursday			

Monday	Friday
Tuesday	Saturday
Wednesday	Sunday
Thursday	

C Cannabis Use

Cannabis can also be called any of the following names: grass/ganja/blow/draw/dope/marijuana/hashish/hash/joints/spliffs/skunk/weed/puff or many others! Check if you are not sure.

7. Which of the following applies to you: *(tick one only)*

Never used cannabis ☐ Never smoked cannabis, but have eaten it ☐ Smoked cannabis once or twice ☐ Used to smoke cannabis but don't anymore ☐ Smoke only occasionally ☐

Smoke every month ☐ Smoke every week ☐ Smoke most days ☐ Smoke every day ☐

8. At what age did you first smoke cannabis? ☐☐

If you do not smoke cannabis every month, go to section D.

9. How many times do you smoke on average ☐☐ per day OR ☐☐ per week OR ☐☐ per month

D Stimulant Drug Use (Amphetamines, Ecstasy, Cocaine and Crack)

In this section please think about your use of any of the following four drugs; amphetamines (sometimes called speed/whizz/uppers); ecstasy (E); powder cocaine (charlie/coke); and crack cocaine (rock, stone). When answering questions about how often you use, count each session or evening you use any amount of these drugs as one.

10. Which of the following applies to you: *(tick one only)*

Never used any of these ☐ Don't use any more ☐ Use some or all of these drugs usually:

Only on special occasions ☐ Every few months ☐ Around once every month ☐

Two or three times a month ☐ Once a week ☐ More than once a week ☐

	Amphetamines	Ecstasy	Cocaine	Crack
11. At what age did you first use? *Put a zero in the box if you have never used and only answer relevant questions below.*	☐☐	☐☐	☐☐	☐☐
12. How many times do you estimate you have used each drug in the last 3 months?	☐☐☐	☐☐☐	☐☐☐	☐☐☐
13. During this time, what has been your usual quantity of each? *(in grams, lines, tablets or rocks)*	☐☐☐	☐☐☐	☐☐☐	☐☐☐

14. How many times do you estimate you have used each drug in your life?
Put one tick in the correct column for each drug you have used

	1-5	6-10	11-20	21-50	50+
Amphetamines					
Ecstasy					
Cocaine					
Crack					
Cannabis					

E All Other Drug Use

15. This asks you about use of other drugs. With each drug of the four named drugs, start on the left on each line. If you have never used it, put a tick in the first column and go on to the next drug. If you have used, put your age of first use and the number of times used in the last three months (including zeros). Estimate if you can't remember exactly. Don't include drugs given to you for medical reasons or those above. List all other drugs used in the spaces provided, and complete two boxes for each.

Drug	Never used?	Age of first use?	No of times in last 3 months?
Amyl nitrite (poppers)			
Glue/gas/aerosol			
LSD (acid, trips)			
Magic mushrooms			
Any other drug			
_____ Any other drug			
_____ Any other drug			
_____			

Write details of any other drugs used in the space above on the right.

16. Have you ever kept a record of how much drugs you were using, for example in a diary:

yes ☐ no ☐ *If no go to question 18*

17. Have you recorded drug consumption in the past three months: yes ☐ no ☐

18. Have you ever telephoned a helpline to talk or ask questions about drugs or drug use?

yes ☐ no ☐

SECTION 2: MORE ABOUT YOUR DRUG USE

This section asks you to think about your own drug use. Some questions ask you to remember things which it may be difficult to remember exactly. For these, please estimate as accurately as possible. Other questions ask you to choose a number to represent what you think about something. Please read the guidance for each question carefully.

1. In the last three months, which drug have you most enjoyed or has given you the most pleasure?

2. How would you rate this enjoyment/pleasure on a scale of 1 - 10?
(circle one number to indicate marks out of 10)

(lowest) 1 2 3 4 5 6 7 8 9 10 (highest)

3. *Sometimes people decide to make changes in their drug use whilst still continuing to use drugs. Commonly the reasons for this are to help avoid or reduce risks or problems. Tick only one of the following statements which best applies to your drug use now.*

A. I have not been thinking about changing anything.

B. There are things I have recently thought about changing.

C. I have decided that I am going to change some things soon

D. I am changing now

E. I have changed some things recently

F. None of the above

If you have ticked A, go to question 5.

4. Which changes were you are referring to (answers B,C,D & E), or why was none of the above applicable (answer F)?

5. Which drugs do you intend to be using one year from now? *Include both legal and illegal drugs, and those you currently use and others you do not, but which you intend to use in the next 12 months.*

6. *This question asks you what you think of your own drug use and risk. Risks are anything that might cause you to have any type of problem connected with drug use.*
How much do the statements below apply to you? Some of them may appear similar, so read and think carefully. Circle the number for each one where:
1 = agree strongly. 2 = agree. 3 = don't know or not sure. 4 = disagree. 5 - disagree strongly.

There are some risks in my drug use but it's not worth changing anything	1	2	3	4	5
I have recently reduced my risks by deciding to and changing the way I use drugs	1	2	3	4	5
I am about to reduce my risk by changing something specific I have in mind	1	2	3	4	5
I have been thinking about I might reduce my risks.	1	2	3	4	5
My drug use isn't risky. I don't need to think about changing anything	1	2	3	4	5
I am weighing up whether it's worth reducing risk.	1	2	3	4	5
I am doing something now to reduce my risk of problems	1	2	3	4	5
I have decided I will do something soon to reduce my risks.	1	2	3	4	5

7. In the past three months, has your drug use caused any problems with the following people?

Tick as many as apply, tick here if no problems with anyone ☐

College staff	☐	Your parents or other family	☐
Friends of your age	☐	Adults near where you live	☐
The police	☐	Other people	☐

8. On a scale of 1 - 10, how positive would you say is your attitude to drugs and drug use in general?
Circle one number on a scale of 1 - 10 where (+ = positive):

least +/ anti-drugs	1	2	3	4	5	6	7	8	9	10 most +/ pro drugs

9. All things considered, how satisfied are you with your own drug use?
Circle one number on a scale of 1 - 7 where:

Completely dissatisfied	1	2	3 neutral	4	5	6	7 Completely satisfied

10. *For a - e circle the answer which applies best you.* In the past three months

a) Did you think your use of stimulants was out of control

never/almost never sometimes often always/nearly always

b) Did the prospect of missing taking stimulants make you anxious or worried

never/almost never sometimes often always/nearly always

c) Did you worry about your use of stimulants

never/almost never sometimes often always/nearly always

d) Did you wish you could stop

never/almost never sometimes often always/nearly always

e) How difficult would you have found it to stop, or go without stimulants

not difficult quite difficult very difficult impossible

11. How many of your friends smoke cannabis? *(Circle one answer only)*

None or hardly any less than half about half more than half all or nearly all

12. How many of your friends use illegal drugs other than cannabis? *(Circle one answer only)*

None or hardly any less than half about half more than half all or nearly all

13. Have you ever been offered heroin? yes ☐ no ☐

14. Have you ever been present whilst someone was smoking heroin? yes ☐ no ☐

15. Have you ever been present whilst someone was injecting a drug? yes ☐ no ☐

16. Have you ever been arrested whilst drunk or under the influence of drugs? yes ☐ no ☐

17. Have you ever committed any crime to get money to buy drugs? yes ☐ no ☐
If no go to question 19

18. How many crimes have you committed within the last three months in order to buy drugs? ☐
Estimate if you do not know the exact number.

19. If you were worried or concerned about your drug use do you have someone you know who you could talk to about it yes ☐ no ☐

SECTION 3: SOME QUESTIONS ABOUT YOU

1. What is your date of birth? | | | |

2. Are you: male ☐ or female ☐

3. Which ethnic group to you belong to?

White British ☐ White Non-British ☐ Black African ☐ Black Caribbean ☐ Black other ☐

Indian ☐ Pakistani ☐ Bangladeshi ☐ Chinese ☐ Other ☐ Please specify ☐

4. How many GCSE passes do you have at grades a - c? ☐

5. How many other GCSE passes do you have (below c)? ☐

6. Are you currently studying at college? full time ☐ part time ☐ not at college ☐

7. What is your postcode? ☐

8. *Circle the correct answer for each of the following statements about how you have felt recently:*

Where more than usual =1, same as usual = 2, less than usual = 3 and much less than usual = 4.

Been able to concentrate on whatever you're doing	1	2	3	4
Lost much sleep over worry	1	2	3	4
Felt that you were playing a useful part in things	1	2	3	4
Felt capable of making decisions about things	1	2	3	4
Felt constantly under strain	1	2	3	4
Felt you couldn't overcome your difficulties	1	2	3	4
Been able to enjoy your normal day to day activities	1	2	3	4
Been able to face up to your problems	1	2	3	4
Being feeling unhappy and depressed	1	2	3	4
Been losing confidence in yourself	1	2	3	4
Been thinking of yourself as a worthless person	1	2	3	4
Been feeling reasonably happy all things considered	1	2	3	4

9. In the last 3 months how many college or work days, if any, have you missed when you should have attended? [ ]

10. In the last three months how many times, if any, have you visited a doctor? [ ]

11. In the past month how many evenings, if any, have you visited pubs? [ ]

12. In the past month how many times, if any, have you gone clubbing (visited a nightclub)? [ ]

Please check that you have answered all questions. Any that are not, we will need to ask you about later. If you need help with any questions, the person who recruited you to the project will be ready and able to help. When you return the completed questionnaire to that person, they will immediately seal it an envelope. This will only be opened by researchers. In the next week or so, you should hear when interviews are to be arranged.

Thank you for completing this questionnaire.

SECTION 1: DRUG USE

Tick one box only for each drug use status question below

1. Tobacco use status (not including in joints): Do you smoke? How often? / Have you ever?

Never smoked ☐ Smoked once or twice ☐ Former smoker ☐ Smoke less than weekly ☐

Smoke every week or nearly every week ☐ Smoke every day or nearly every day ☐

2. How many cigarettes or roll-ups do you smoke on average?

per day OR per week

3. Alcohol use status: Do you drink? How often? / Have you ever?

Never drank ☐ Drank once or twice ☐ Don't drink any more ☐ Drink less than monthly ☐

Usually drink every month ☐ Usually drink every fortnight ☐ Usually drink every week ☐

4. In the last week what alcohol have you drunk? Tick if none ☐

Monday	Friday
Tuesday	Saturday
Wednesday	Sunday
Thursday	

Record quantities and brand names in enough detail to allow unit calculation

5. Do you usually drink any other types of alcohol? 5a. Which?

6. Cannabis use status: Do you smoke? How often? / Have you ever?

Never used cannabis ☐ Never smoked cannabis, but have eaten it ☐ Smoked cannabis once or twice only ☐ Used to smoke cannabis but don't anymore ☐ Smoke less than monthly ☐

Smoke every month ☐ Smoke every week ☐ Smoke most days ☐ Smoke every day ☐

7. How many times do you usually smoke cannabis on average?

per day OR per week OR per month

8. How much cannabis do you usually smoke, in weight or money, in an average week (month if app)?

per day OR per week OR per month

9. How many days without any cannabis within last month?

10. How much of the time spent smoking cannabis do you smoke by yourself? *Card 1*

never/almost less than half about half more than half always/nearly

11. How much of the time spent smoking cannabis do you smoke at home? *Card 1*

never/almost less than half about half more than half always/nearly

12. Which type of cannabis do you usually smoke? What other types have you smoked in the last three months?

1	2	3

Record first three terms given, enquire (and note) if unfamiliar and ensure they are different types (not just different names for the same thing)

13. What are the names you usually use for this drug, apart from those above?
Record only first three given

1	2	3

14. Stimulant use status (amphetamines, ecstasy, cocaine and crack): Do you use any of these? How often? / Have you ever?

Never used any of these ☐ Don't use any more ☐ Use some or all of these drugs usually:

Only on special occasions ☐ Every few months ☐ Around once every month ☐

Two or three times a month ☐ Once a week ☐ More than once a week ☐

15. How many times do you estimate you have used each drug in the last 3 months?
16. During this time, what has been your usual quantity of each?

	Amphetamines	Ecstasy	Cocaine	Crack

17. How many times do you estimate you have used each drug in your life?
Put one tick in the correct column for each drug

	0	1 - 5	6 -10	11-20	21-50	50+
Amphetamines						
Ecstasy						
Cocaine						
Crack						

18. Other drugs *Non-medical use only*

	Ever used?		Last 3 months?		No. of times?
Amyl nitrite/poppers	☐	(tick if yes X if no)	☐	(tick if yes X if no)	
Glue/gas/solvents	☐		☐	Which? _____	
LSD/acid	☐		☐		
Magic mushrooms	☐		☐		
Semeron	☐		☐		
Benzodiazepines (valium, temazepam etc)	☐		☐	Which? _____	
Heroin	☐		☐	First use? yes / no	
Methadone	☐		☐	First use? yes / no	
Steroids	☐		☐		

19. Ever used any other drugs? yes ☐ no ☐

19a. If yes, which?

1	2	3

19b. No. of times in last 3 months?

1	2	3

20. Have you ever injected, or been injected with a drug by someone other than a doctor?

yes ☐ no ☐

20a. If yes, how many times in the last three months have you injected or been injected with a drug? ☐

20b. If yes, which drug or drugs? ☐

20c. First ever use of drugs by injection? yes ☐ no ☐

22. At what age did you first use all drugs you have ever used?
Regular use means weekly for tobacco, alcohol and cannabis and monthly for all other drugs.

	Ever	Regularly(Weekly/monthly)
Tobacco		
Alcohol		
Cannabis		
_____		
_____		
_____		
_____		
_____		
_____		

SECTION 2: RISK

1. Apart from this project, where have you got information or advice on drugs or drug use in the last 3 months? *Card 2 Tick all that apply*

TV		Police Officers	
Radio		Friends	
Internet		Parents	
Magazines		Brothers or Sisters	
Newspapers		Dealer	
College		Telephone Helpline	
GP		Other_____	
Drug Service/ Agency		Other_____	
Youth Workers		Nowhere	

2. Which of these did you get most information from?	3. Which was the best source of information?

4. If you were worried or concerned about your drug use do you have someone you know who you could talk to about it yes ☐ no ☐

4a Who? ☐

5. In the past three months, have you kept a record of how much drugs you were using, for example in a diary: yes ☐ no ☐

6. Have you ever kept a record of after-effects, consequences or problems of any drug use: yes ☐ no ☐ 6a. If yes, have you recorded drug effects in the past three months: yes ☐ no ☐

7. Have you decided to cut down or stop using any drugs in the last 3 months: yes ☐ no ☐

7a. If yes, which

8. Had you ever previously decided to cut down or stop using any drugs: yes ☐ no ☐

8a. If yes, which

9. In the last three months, which drug have you most enjoyed or has given you the most pleasure?

10. How would you rate this enjoyment/pleasure on a scale of 1 - 10?

(lowest) 1 2 3 4 5 6 7 8 9 10 (highest)

11. Which of the following best describes the way you have recently thought about your drug use?

A. I have not been thinking about changing anything. ☐

B. There are things I have recently thought about changing. ☐

C. I have decided that I am going to change some things soon ☐

D. I am changing now ☐

E. I have changed some things recently ☐

F. None of the above ☐

12. Which changes were you referring to (answers B,C,D & E), or why was none of the above applicable (answer F)?

13. Which drugs do you intend to be using one year from now? Include both legal and illegal drugs, and those you currently use and others you do not, but which you intend to use in the next 12 months.

14. This question asks you more what you think of your own drug use and risk. Risks are anything that might cause you to have any type of problem connected with drug use. How much do these statements apply to you? *Card 3*
1 = agree strongly. 2 = agree. 3 = don't know or not sure. 4 = disagree. 5 - disagree strongly.

There are some risks in my drug use but it's not worth changing anything	1	2	3	4	5
I have recently reduced my risks by deciding to and changing the way I use drugs	1	2	3	4	5
I am about to reduce my risk by changing something specific I have in mind	1	2	3	4	5
I have been thinking about how I might reduce my risks.	1	2	3	4	5
My drug use isn't risky. I don't need to think about changing anything	1	2	3	4	5
I am weighing up whether it's worth reducing risk.	1	2	3	4	5
I am doing something now to reduce my risk of problems	1	2	3	4	5
I have decided I will do something soon to reduce my risks.	1	2	3	4	5

15. All things considered, how satisfied are you with your own drug use?
Card 4
Completely dissatisfied 1 2 3 4 5 6 7 Completely satisfied
neutral

16. How important to you would you say your use of each drug is? *Last 3 month use only.*
Card 5 1 = Not at all, 2 = not really, 3 = a little, 4 = reasonably, 5 = very, 6 = more than most things, 7 = more than every thing else, to answer this question.

Nicotine	
Alcohol	
Cannabis	
Other drug_____	
Other drug_____	

17. This question asks you about what you think of drugs generally, not your own drug use.
Card 3
1 = agree strongly. 2 = agree. 3 = don't know or not sure. 4 = disagree. 5 - disagree strongly

Taking drugs is OK if it makes you feel good.	1	2	3	4	5
Taking drugs always leads to addiction.	1	2	3	4	5
I have a negative attitude towards drugs.	1	2	3	4	5
Taking drugs is always dangerous.	1	2	3	4	5
Most of my close friends take drugs.	1	2	3	4	5
People who take drugs live life to its fullest.	1	2	3	4	5
I could no longer respect someone who I found out took drugs	1	2	3	4	5
Taking drugs is morally wrong.	1	2	3	4	5
Older people worry too much about the dangers of drugs.	1	2	3	4	5
People who take drugs have mostly good experiences with drugs.	1	2	3	4	5
Cannabis should be made legal.	1	2	3	4	5
Taking drugs is just a bit of fun.	1	2	3	4	5
Most people who take drugs will eventually have problems.	1	2	3	4	5

18. On a scale of 1 - 10, how positive would you say is your attitude to drugs and drug use in general?

least +/ anti-drugs 1 2 3 4 5 6 7 8 9 10 most +/ pro drugs

19. How safe do you think the following drugs are to use? Pick a number on a scale between 1 - 10 where 1 is completely safe and 10 is completely unsafe.

Skunk		Heroin	
Crack Cocaine		Ecstasy	
Powder Cocaine		Amphetamines	

21. How many of your friends smoke cannabis? *Card 6*

None or hardly any | less than half | about half | more than half | all or nearly all

22. How many of your friends use illegal drugs other than cannabis? *Card 6*

None or hardly any | less than half | about half | more than half | all or nearly all

In the last 3 months, have you:

23. Been offered heroin? yes ☐ no ☐

24. Been present whilst someone was smoking heroin? yes ☐ no ☐

25. Been present whilst someone was injecting a drug? yes ☐ no ☐

26. In the past week, how many evenings out (away from home) have you had? ☐

27. In the past month how many evenings, if any, have you visited bars or pubs? ☐

28. In the past month how many times, if any, have you gone clubbing? ☐

SECTION 3: HARM

1. Cigarette smoking. *Cards 7 & 8* In the past three months

a) Did you think your smoking was out of control

never/almost never sometimes often always/nearly always

b) Did the prospect of missing smoking make you anxious or worried

never/almost never sometimes often always/nearly always

c) Did you worry about your smoking

never/almost never sometimes often always/nearly always

d) Did you wish you could stop smoking

never/almost never sometimes often always/nearly always

e) How difficult would you have found it to stop, or go without smoking

not difficult quite difficult very difficult impossible

2. Drinking alcohol. *Cards 7 & 8.* In the past three months

a) Did you think your drinking was out of control

never/almost never sometimes often always/nearly always

b) Did the prospect of missing drinking make you anxious or worried

never/almost never sometimes often always/nearly always

c) Did you worry about your use of alcohol

never/almost never sometimes often always/nearly always

d) Did you wish you could stop drinking

never/almost never sometimes often always/nearly always

e) How difficult would you have found it to stop, or go without any alcohol

not difficult quite difficult very difficult impossible

3. Cannabis smoking. *Cards 7 & 8.* In the past three months

a) Did you think your use of cannabis was out of control

never/almost never sometimes often always/nearly always

b) Did the prospect of missing smoking make you anxious or worried

never/almost never sometimes often always/nearly always

c) Did you worry about your use of cannabis

never/almost never sometimes often always/nearly always

d) Did you wish you could stop smoking cannabis

never/almost never sometimes often always/nearly always

e) How difficult would you have found it to stop, or go without any cannabis

not difficult quite difficult very difficult impossible

4. For users of stimulants only. *For a - e circle one answer.* In the past three months

a) Did you think your use of stimulants was out of control

never/almost never sometimes often always/nearly always

b) Did the prospect of missing taking stimulants make you anxious or worried

never/almost never sometimes often always/nearly always

c) Did you worry about your use of stimulants

never/almost never sometimes often always/nearly always

d) Did you wish you could stop taking stimulants

never/almost never sometimes often always/nearly always

e) How difficult would you have found it to stop, or go without any stimulants

not difficult quite difficult very difficult impossible

5. For users of other drugs only. *For a - e circle one answer.* In the past three months

a) Did you think your use of _____ was out of control

never/almost never sometimes often always/nearly always

b) Did the prospect of missing taking _____ make you anxious or worried

never/almost never sometimes often always/nearly always

c) Did you worry about your use of _____

never/almost never sometimes often always/nearly always

d) Did you wish you could stop taking _____

never/almost never sometimes often always/nearly always

e) How difficult would you have found it to stop, or go without _____

not difficult quite difficult very difficult impossible

6. In the past three months, has your drug use caused problems with any of the following people? If so, which drug? *Tick as many as apply*

	No	Tobacco	Alcohol	Cannabis	Other drugs
College staff					
Friends of your age					
The police					
Your parents or family					
Adults near where you live					
Boyfriend or girlfriend					
Anyone else					

7. In the last three months how many times, if any, have you visited a doctor? ☐

8. In the last three months how many college or work days, if any, have you missed when you should have attended? ☐

9. How often has the use of any drugs led to the following things happening in the last 3 months?
Card 9 Not at all = 0, A few times = 1, Often = 2, Most of the time = 3

Missed lessons	
Didn't study when should have	
Poor concentration	
Didn't do assignments	
Didn't do work as well as could have	

10. In the last 3 months, have you: *Card 10*
more than usual = 1, same as usual =2, less than usual =3, much less than usual = 4.

Been able to concentrate on whatever you're doing	1	2	3	4
Lost much sleep over worry	1	2	3	4
Felt that you were playing a useful part in things	1	2	3	4
Felt capable of making decisions about things	1	2	3	4
Felt constantly under strain	1	2	3	4
Felt you couldn't overcome your difficulties	1	2	3	4
Been able to enjoy your normal day to day activities	1	2	3	4
Been able to face up to your problems	1	2	3	4
Being feeling unhappy and depressed	1	2	3	4
Been losing confidence in yourself	1	2	3	4
Been thinking of yourself as a worthless person	1	2	3	4
Been feeling reasonably happy all things considered	1	2	3	4

11. How problematic is your use of each drug? *Last 3 month use only, Card 11*
Use a scale of 1 - 5 where; 1 = Not at all, 2 = not really, 3 = a little, 4 = quite, 5 = very

Nicotine

Alcohol

Cannabis

Other drug_____

Other drug_____

Other drug_____

12. Have you been arrested in the last 3 months whilst drunk or under the influence of drugs?

yes ☐ no ☐

13. Have you committed any crime in the last 3 months to get money to buy drugs? yes ☐ no ☐

13a. How many crimes have you committed within the last three months in order to buy drugs?

14. Have you sold drugs to friends within the last three months: yes ☐ no ☐

15. Had you ever sold drugs to friends before three months ago: yes ☐ no ☐

16. Have you sold drugs to people who weren't friends within the last three months: yes ☐ no ☐

17. Had you ever sold drugs to people who weren't friends before three months ago: yes ☐ no ☐

18. Have you ever been homeless? yes ☐ no ☐ 18a. Within last 3 months? yes ☐ no ☐

19. Have you ever seen a psychiatrist? yes ☐ no ☐ 19a. Within last 3 months? yes ☐ no ☐

20. Have you ever been "in care" or accommodated by a social services department? yes ☐ no ☐

21. Were you ever excluded from school? yes ☐ no ☐ 21a. Temporarily ☐ Permanently ☐

SECTION 4: PERSONAL DATA

1. At which level are you studying:

Level 0 ☐ Entry level

Level 1 ☐ GNVQ Foundation or NVQ 1

Level 2 ☐ GCSE, GNVQ Intermediate or NVQ 2

Level 3 ☐ A Level, GNVQ Advanced or NVQ 3

Level 4 ☐ HND, BTEC National Diploma or NVQ 4

☐ Not studying

2. Which subjects? If not studying occupation and employment status.

3. Do you have or have you had final exams in May or June? yes ☐ no ☐ Doesn't apply ☐

4. College

5. Is where you live: Local authority/council rented ☐ Housing Association ☐ Private rented ☐

Owned by your family ☐ Hostel ☐ Other ☐ Please specify

6. Which adults do you live with:

Both parents ☐ Father only ☐ Mother only ☐ Other family ☐ Boyfriend or girlfriend ☐

Friends ☐ People you didn't know before moving in ☐ No other adults ☐ Other _____

7. Are you in contact with any parents you do not live with? yes ☐ no ☐ Which_____

8. In which countries were your parents born?

Father Mother

9. What are your parents occupations? *or* What work do they normally do?

Father Mother

10. Are your parents currently:

	Father	Mother		Father	Mother
employed full time	☐	☐	sickness	☐	☐
employed part time	☐	☐	self-employed	☐	☐
unemployed	☐	☐	retired	☐	☐
at home	☐	☐	other, please specify_____		

As far as you know:

11. Have either of your parents ever been users of illegal drugs? yes ☐ no ☐ don't know ☐

12. Have either of your parents ever had alcohol problems? yes ☐ no ☐ don't know ☐

13. Have either of your parents ever been in prison? yes ☐ no ☐ don't know ☐

14. Have either of your parents ever been in a psychiatric hospital? yes ☐ no ☐ don't know ☐

15. What is your religious background, if any?

No religious background ☐ Muslim ☐ Hindu ☐ Sikh ☐ Jewish ☐ Buddhist ☐ Catholic ☐

Protestant ☐ or Other ☐ Please specify ☐

16. How many times, if any, have you attended a religious service (at a church, temple, mosque) in the last three months ☐

17. How much money do you usually have to spend each month on non-essentials? Essentials are things you have to pay like rent, food, bills etc ☐

18. Where does this money come from? *Card 12*

Benefits	☐	Boyfriend or Girlfriend	☐
Parents	☐	Theft	☐
Other Family	☐	Dealing	☐
Job	☐	Other_____	☐
Friends	☐	Other_____	☐

19. Where does most of your money come from? ☐

20. How important to you would you say each of the following is? *Card 5*
Use a scale of 1 - 7 where; 1 = Not at all, 2 = not really, 3 = a little, 4 = reasonably, 5 = very, 6 = more than most things, 7 = more than every thing else.

College studies & future job/career	☐
Relationships (boyfriend or girlfriend type)	☐
Friends	☐
Family	☐
Having good times & enjoying yourself	☐
Health	☐

20a. Is there anything else, not on this list, that's very important to you (score 5 or more)

21. Have you ever had sex? yes ☐ no ☐

21a. At what age did you first have sex? ☐

21b. How many partners (different people) have you had sex with in the last three months? ☐

21c How many children have you had? ☐ 21d How many of these do you live with? ☐

22. Is your sexuality gay ☐ bisexual ☐ straight ☐

23. Which sports, if any, have you played in the last three months?

24. Which are your favourite types of music?

25. How satisfied are you with the way these areas of your life have been going recently? *Card 4*
On a scale of 1 - 7 where; 1 indicates completely dissatisfied; 4 indicates not particularly satisfied nor dissatisfied; 7 indicates completely satisfied.

College studies & future job/career	
Relationships with boyfriends or girlfriends	
Relations with friends	
Family relationships	
Having good times & enjoying yourself	
Health	
Other important (q20a)_____	
Other important (q20a)_____	

SECTION 5: INTERVENTION & CHANGE

1. On a scale of 1 - 7 (where 1 = not at all and 7 = very much) do you think it is a good idea to give young people an opportunity to talk about their drug use?

Not at all 1 2 3 4 5 6 7 Very Much

2. Who is best to deliver a service like this?

3. Where is it best to deliver a service like this?

4. Has your drug use has changed over the last three months? Briefly summarize in a few sentences how and why?

5. Do you do anything make sure your drug use is controlled? What? How?

Remaining questions for intervention group only.
Check contact details and record on next page for control group

6. Was the interview helpful in thinking about risk?

Not at all 1 2 3 4 5 6 7 Very Much

7. Was the interview helpful in thinking about problems?

Not at all 1 2 3 4 5 6 7 Very Much

8. Was the interview helpful in thinking about concerns or things that bother you

Not at all 1 2 3 4 5 6 7 Very Much

9. Was the interview helpful in thinking about changing any aspect of your drug use

Not at all 1 2 3 4 5 6 7 Very Much

10. Did the interview improve your confidence about changing any aspect of your drug use if necessary

Not at all 1 2 3 4 5 6 7 Very Much

11. Was the information you received helpful?

Not at all 1 2 3 4 5 6 7 Very Much Not Applicable

12. Did the interview affect the way you use drugs?

Not at all 1 2 3 4 5 6 7 Very Much

13. What effect, if any, did receiving the intervention have?

Contact details for follow-up interview:

509

Appendix 8

REDUCING RISK AMONG YOUNG PEOPLE PROJECT

MOTIVATIONAL INTERVIEW FEEDBACK EVALUATION SHEET

Please answer these simple questions on the interview. This information will help to develop this approach to young people who use drugs. Your answers will be treated confidentially as with all other information provided by you during this interview and in the project as a whole. Circle the correct answer to each question.

How enjoyable was the interview?

Not at all 1 2 3 4 5 6 7 Very much

How interesting was the interview?

Not at all 1 2 3 4 5 6 7 Very much

How useful was the interview?

Not at all 1 2 3 4 5 6 7 Very much

Will the interview affect the way that you use drugs?

Not at all 1 2 3 4 5 6 7 Very much

Did the interviewer know how things felt for you?

Not at all 1 2 3 4 5 6 7 Very much

Did the interviewer understand what you were talking about?

Not at all 1 2 3 4 5 6 7 Very much

How easy was it to talk to the interviewer?

Not at all 1 2 3 4 5 6 7 Very much

The interviewer really knew what he was talking about.

Strongly Agree Agree Don't Know Disagree Strongly Disagree

Offering a service like this could be helpful to young people who us drugs.

Strongly Agree Agree Don't Know Disagree Strongly Disagree

I would recommend this to a friend.

Strongly Agree Agree Don't Know Disagree Strongly Disagree

INTERVENTION DATA COLLECTION SHEET

College, Peer Interviewer & No.

Name | Date | Venue

MI Topics
(in sequence)

4+ | 4- | 5

Length of Time
(in mins) | Drugs discussed
(by prominence)

SMS 0 1 2 3

Risk
Problem
Concern
Actions
Optimism

Implemented risk reduction — yes no — Drugs

Self-help interest — yes no — Self-help materials

Actions intended — yes no maybe — Drugs | Success Rating

Consumption prediction — same increase decrease

Quality of working alliance

Resistance

Directiveness

Effects estimate

Environmental risk

SoCh & Motivational Continuum

Quality of intervention delivery